APRIL, 1954

WOOD and Wood Products

THE NATIONAL MANAGEMENT AND PRODUCTION MAGAZINE OF THE WOOD INDUSTRY

A Vance PUBLICATION

FEATURES IN THIS ISSUE

- Modern Machines Streamline Desk Production
- How Production Controls Save Thousands
- Dimensional Control in Small Sawmills
- More New Finishing Ideas and Equipment
- New Products—Trends—Letters—Current Prices

WOOD SALUTES

J. P. Hamer

NEW WHITNEY 600
NEW-MATIC FACER

Fills need for Heavy Duty High Production Facer

This rugged, heavy duty machine is designed for the fast, efficient facing of rough-cut lumber, glued-up panels and cores. The 600 Facer has many outstanding features including an endless rubber fabric feed belt with pneumatic rubber feed fingers, rigidly mounted feed works frame on four large ball bearing screws, centralized, convenient push button operation, cutterhead mounting permits greater ease and safety in setting and grinding the knives, unique mounting of infeed table maintains constant throat opening at all depths of cut, automatic and manually operated safety devices at either end of machine.

The 600 Facer and other new Whitney production machines will be on display at the Industry Show.

WHITNEY 600 NEW-MATIC FACER
Built in 24" and 36" widths.
Feeds up to 100 ft. per minute.

ON DISPLAY
at Industry Show
Grand Rapids
May 5-7

Write for new Facer circular WP4

In our 117th Year

Whitney
FOR FINEST PERFORMANCE

Baxter D. Whitney & Son, Inc.
World's Finest Built Production Surfacers
Winchendon, Massachusetts, U. S. A.

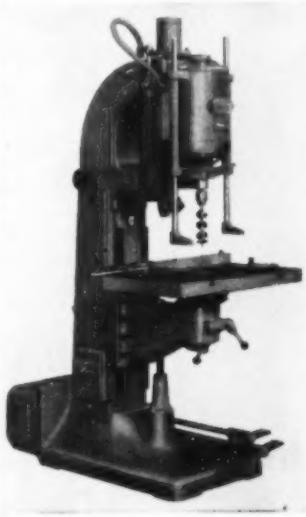
PLANERS • SHAPERS • AUTOMATICS • VARIETY SAWS • BACK KNIFE LATHES

THE ROOT LINE

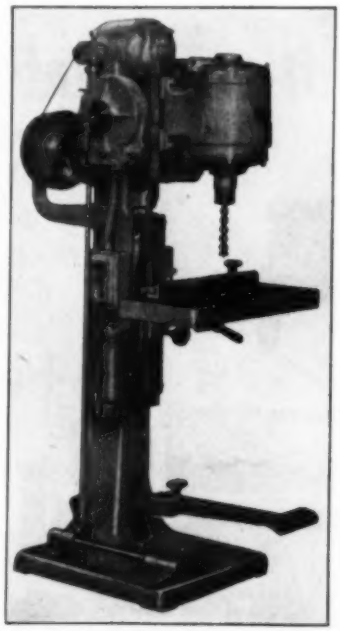
ROUTE TO SMOOTH EFFICIENT BORING OPERATIONS

From the world's most complete line of wood boring machines

YOU'LL BORE NO END with a ROOT



STYLE G-300 the heaviest duty power feed borer made today—ideal for heavy to medium work — provides a ¾ ton feed pressure—has many unique feed control features that assure ease of operation and maximum production.

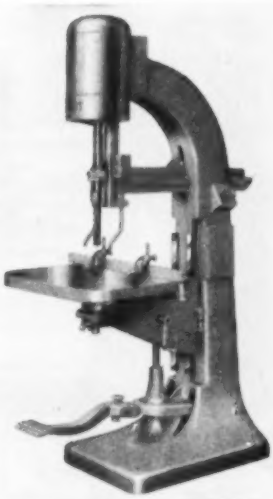


SINGLE SPINDLE BORER BOOSTS PRODUCTION through

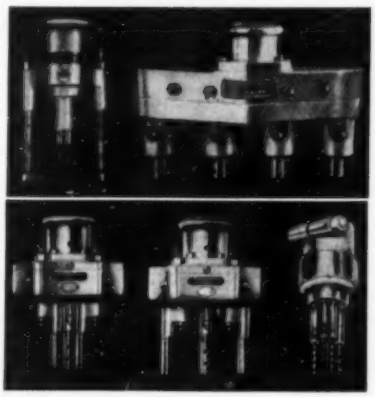
- Versatility
- Adjustable feeds
- Dual speed

Style GM single spindle borer with power or foot feed.

Because of its capacity for light to heavy work; its adaptable feeds and speeds, and versatility through use of multiple boring heads, this machine is one of the most popular in the industry. Simple to adjust—2 or 4 feed rates, continuous or intermittent; spindle-travel foot control, and 2-speed spindle—this borer is ideal for long or short production runs. Write today for full information.



STYLE G-250 foot feed boring and mortising machine—has ample throat room, tilting table, 2 speed 3 h.p. motor, adjustable spindle stroke and table height, and many other features that make it ideal for miscellaneous boring.



A wide range of quickly detachable multiple boring heads available for Style GM and G-300 borers.

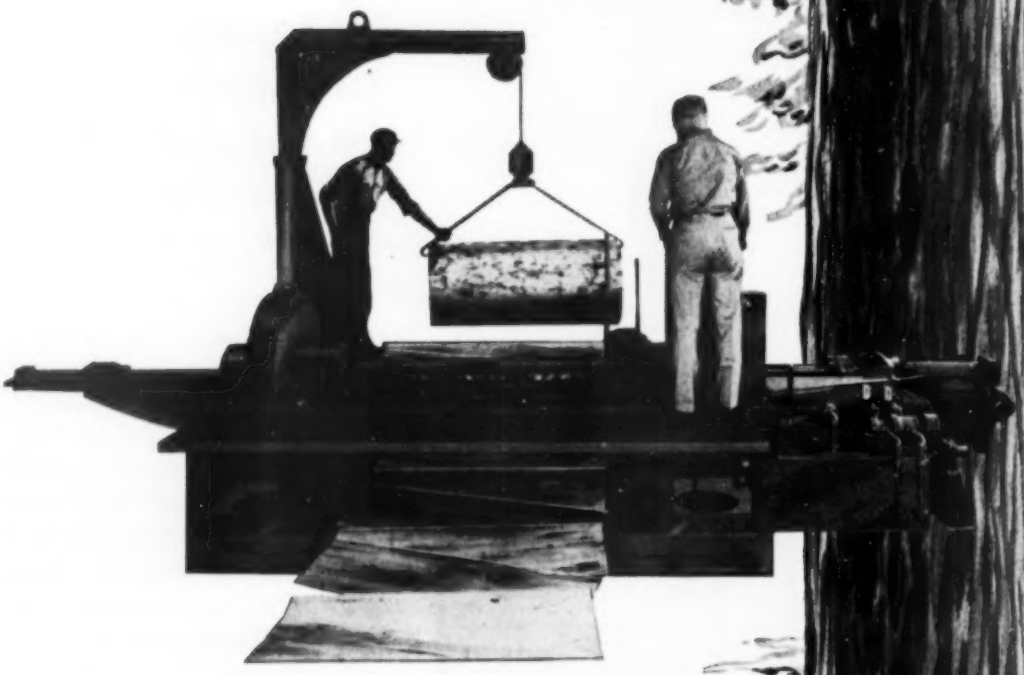
B. M. ROOT CO.

YORK — PENNA.

MONEY DOES GROW ON

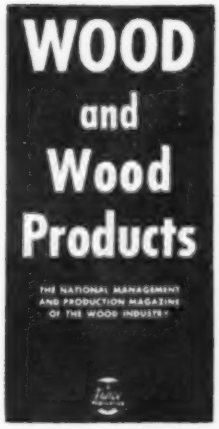
and JACKSO

makes it more profit



When it comes to a highly efficient veneer operation a JACKSON VENEER LATHE IS YOUR BEST BET! Surely . . . there are more profitable dollars to be had when you put the many features of a Jackson Lathe into operation. These precision built lathes have a central control panel that is simple to operate . . . a quick change gear box . . . hydraulic hoist . . . hydraulic chucking . . . Timken bearing equipped . . . and all-steel frame construction. Jackson also features a very efficient back roll operation. A letter, wire or telephone call will bring a Jackson Engineer to discuss your problem . . . there is no obligation.

JACKSON
INDUSTRIES, INC.
VENEER MACHINES DIVISION
BIRMINGHAM, ALABAMA



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(advertisement)

She didn't mind her husband saying Grace at the table but she objected to his talking about her in his sleep.

• • •

Overheard in a doctor's office: "I don't really mind suffering. It's the pain that gets me."

• • •

Knock 'em Dead at Lodge:
"What do zebras have that no other animals have?"
"Little zebras!"

• • •

We don't care where you're from, you'll like the MAUK way of doing business. We know that's true because in our more than half a century in lumber we've built up a trade that boasts customers from each of the 48 states—and if that ain't enough —we got customers in Alaska too.

So, wherever you do business, ask around. You'll find satisfied customers are MAUK customers and vice versa, if you know what we mean.

• • •

Simple Celia's boy friend asked her if she liked Kipling and she had to tell him she didn't know how to kipple.

• • •

Husband while shaving: "You know dear, when I shave in the morning I feel ten years younger."

Wife, quietly: "Why don't you try shaving at night?"

• • •

The ideal time to have a date is in the 'oui' small hours.

• • •

MAUK Seattle Lumber Co.
Seattle, Washington

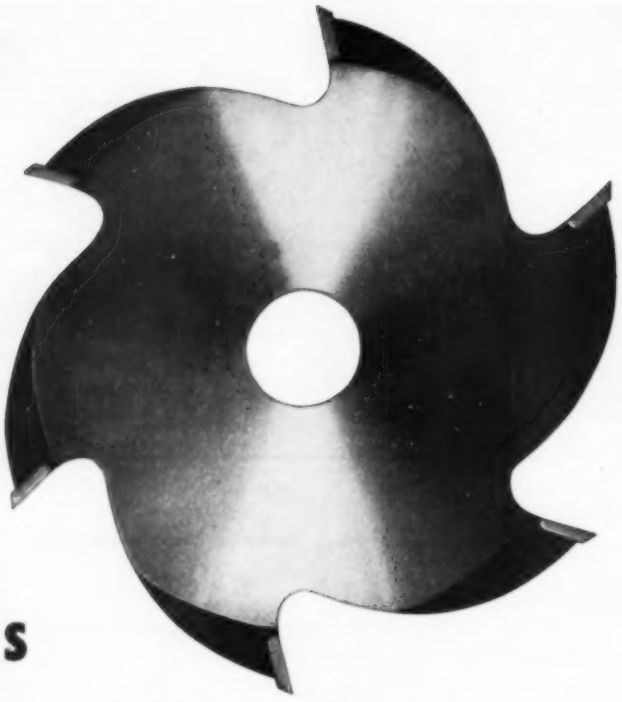
• • •

C. A. MAUK Lumber Co.
Toledo, Ohio

REDCO

Carbide Tipped

GROOVING CUTTERS



. . . packed with high production potential

REDCO Grooving Cutters boost production —that's what users in the furniture, cabinet and flooring industries have proved to their own satisfaction. These carbide tipped cutters take a deeper cut, a faster cut, a cleaner cut and hold sharpness for many more productive hours. They are used, for example, to cut spline grooves, chamfer, dado by nesting, cut tongue and grooves using spacers and cut single or multiple grooves. And, on-schedule sharpening done in your own plant on the simplified Redco Precision Grinder, will keep these grooving cutters at their production best.

Standard Redco Carbide Tipped Grooving Cutters in 9 standard widths, 6" diameters and 6 precision diamond ground teeth are available for prompt delivery. A packaged set of grooving cutters in 7 sizes, $\frac{1}{8}$" to $\frac{1}{2}$" in increments of $\frac{1}{16}$", are individually packed in a shipping carton. Special sizes can be made to match your own particular requirements.

This is the Redco Precision Grinder, designed and built by woodworking specialists to simplify the maintenance of high speed and carbide tipped tools.

NEW REDCO BULLETIN...

Send for your copy of the new Redco Carbide Cutting Tools bulletin.

REDCO **TOOL DIVISION**

RED LION CABINET CO., RED LION [illegible], P[illegible].

APRIL, 1954

WOOD and Wood Products

VOL. 59, NO. 4

INDUSTRY NEWS . . . . . AND TRENDS

LUMBER

Shipments Top Production

Lumber shipments of 514 mills reporting to the National Lumber Trade Barometer were 7.3% above production for the week ending February 27. In the same week new orders of these mills were 9.2% above production. Unfilled orders of the reporting mills amounted to 37% of stocks. For the reporting softwood mills unfilled orders were equivalent to 23 days' production at the current rate, and gross stocks were equivalent to 59 days' production.

For the year to date, shipments of reporting identical mills were 2.8% above production; new orders were 8.5% above production.

FPRS Executive Board Guides Plans for '54 National Meeting

The 1953-54 executive board of the Forest Products Research Society which will remain in office through the 8th annual National Meeting to be held in Grand Rapids, Mich., May 5-7. Seated left to right: Vice-President Moss B. Christian, Chicago Mill & Lumber Co., Tallulah, La.; President-Elect Lester J. Carr, L. J. Carr Lumber Co., Sacramento, Calif.; President Robert D. Pauley, Weyerhaeuser Timber Co., Tacoma, Wash.; Past President Kenneth G. Chesley, Crossett Lumber Co., Crossett, Ark. Standing are regional board members: Northeast Section, W. B. Wilkins, consultant, Ridgewood, N. J.; Southeast Section, Dr. E. S. Harrar, Duke University, Durham, N. C.; North-Central Section, Dr. J. A. Hall, Forest Products Laboratory, Madison, Wis.; Northwest Section, F. R. Armbruster, Dow Chemical Co., Seattle; South-Central Section, W. J. Eason, Nickey Bros., Inc., Memphis; Southwest Section, R. E. Schreck, Union Lumber Co., San Francisco; Executive Secretary, F. J. Rovsek, Madison, Wis.

CONSTRUCTION

Commercial Building Booms

Commercial construction this year is due for a boost of at least 10% above last year's peak of $2.2 billion, the U. S. Chamber of Commerce reports. All kinds of commercial construction will share in the trend. Capital outlay for office buildings, loft buildings and warehouses, as a group, can be expected to total 15% greater than in 1953, while expenditures for stores, restaurants and garages are predicted to be at least 5% more.

Add to these main classes of commercial construction hotels, motels and commercial recreation buildings, and the 1954 total will reach $2.4 billion compared with the 1953 total of around $2.2 billion, according to the Chamber.

Two spectacular features which characterize the current boom are the lush expansion of office buildings and a great wave of shopping center construction. In New York City, nearly six million additional sq. ft. of office space is under construction or in prospect. Pittsburgh, a pioneer in the new office building era, still has plans ahead. Boston, Philadelphia and Chicago are all busy with new structures, while construction is under way or planned in Baltimore, Washington, Atlanta, Dallas, Houston, Denver, Los Angeles and San Francisco.

FURNITURE

'54 Business Greater Than '52

The realistic furniture manufacturer is looking back beyond 1953 and comparing his present status with a similar period of 1952, reports the National Association of Furniture Manufacturers. The highly favorable comparison of present conditions with those of 1952 (second best year in the history of the furniture industry) dispels any notion of a slump, despite the fact that there still exists a downward trend in current levels from the record high pace of 1953.

Looking back to January of 1952 and comparing it with January of 1954, we find that the furniture industry is doing a substantial amount of business. Compared to 1952, shipments in January of 1954 are up 25%, orders up 6%, production up 23%, accounts receivable up 29%, with unfilled orders showing a drop of only 9%.

These figures support the National Association of Furniture Manufacturers' prediction that 1954 will measure up to and probably supplant 1952 as

the second greatest year in the furniture industry.

The January report of Seidman and Seidman continued to note that the downward trend is still with us, but stated that, "Nearly everyone agrees that a business decline is now under way and the almost unanimous view is that it will be so mild and brief as to go down in our economic history as a mere readjustment rather than a recession or a 'little' depression."

The National Association of Furniture Manufacturers reported that preliminary opinions from retailers, wholesalers and manufacturers would indicate that the furniture business is beginning to see an end to the downward trend which the industry has experienced during the last few months, before pointing out the '54-'52 comparison.

TV Sales, Orders Pick Up

An upturn in the sales of television sets has been noted in recent weeks. The pickup got going in January when the nation's retailers sold 750,000 sets as against 640,000 a year before. Further, the seasonal December-to-January drop amounted to only 35,000 this year compared to the year earlier number of 310,000.

The January movement of sets from retail stores far surpassed the movement from assembly lines, estimated at only 424,000 sets. That manufacturers were hastening to correct this condition was word from a Westinghouse Electric Corp. spokesman that its February TV output, although 25% behind November, rebounded 11% from January and is 10% above a year ago. Admiral Corp. reported February production schedules 45% to 50% higher than the plans laid January 1.

Although this uptrend has had no effect on market areas which appear near the saturation point, lower prices at retail levels have spurred demand in many areas. Some makers have reduced prices 10% to 15%.

New stations which give coverage to areas previously poorly served have also had their effect. The pickup, combined with low output, has resulted in shortages of several popular low-price makes. In some areas distributors are quoting delays of six to 13 weeks in delivery of popular models.

Toy Maker Boosts Production with *Weyerhaeuser Wood Parts*

One of the world's largest producers of croquet sets, the South Bend Toy Co. of South Bend, Indiana, was organized in 1874. After buying and processing their own lumber for more than 70 years, they converted to the use of partially finished wood parts. This change substantially increased their production and enabled them to use some of their warehouse space for production facilities.

About two years ago, South Bend began using Weyerhaeuser Precision Cut Wood Parts. Again their production went up sharply, without further increase in production facilities.

Neat, easy-to-handle bundles of Weyerhaeuser Precision Cut Wood Parts save time and increase production for the South Bend Toy Co. These Wood Parts are available in any stage of completion, for almost any company using wood in their products.

Find Out If You Can Save With These Wood Parts

What has happened at the South Bend Toy Co. is happening throughout the country—wherever companies are changing to Weyerhaeuser Precision Cut Wood Parts. We can tell you promptly whether these wood parts can save time and money for you . . . help you increase plant output *without adding space, machines or men.* Write for information.

Weyerhaeuser Sales Company

Industrial Wood Parts Department

ROOM 2113 • 400 WEST MADISON • CHICAGO, ILLINOIS

UTILIZATION

Chipboard Gains in Europe

Joseph Sinzig, sales manager of G. Siempelkamp & Co., Krefeld, Germany, who has been in this country visiting various plywood, hardboard, and chipboard companies in the mid-south and west coast, reports that lumber and dollar shortages in Germany have spurred the development of some 50 chipboard plants in that country, and that all the chipboard is being utilized in Germany.

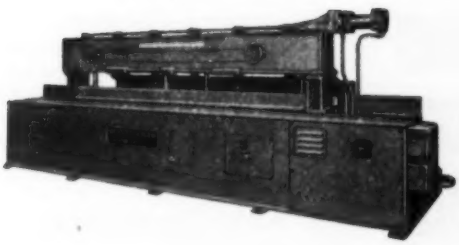
He added that fine-finish chipboard, which is smooth enough to be painted successfully, is being used extensively in European home and industrial construction, as well as for core stock for furniture construction. The visitor said that there are now chipboard plants in the Scandinavian countries, Spain, France, and Italy, and there are known to be at least two chipboard plants behind the Iron Curtain.

Mr. Sinzig stated that conditions in Germany are now similar to those in the United States—production is high and prices are at about the same levels in the two countries. He added that wage rates in Germany are still lower than in the U. S. and the work week ranges from 60 to 75 hours, with overtime paid above 48 hours. Accompanying Mr. Sinzig on his trip are R. O. Wilson and D. N. Copp of Wilco Machine Works, Memphis, Tenn.

West Converts Leftover Wood

Plants are now under construction or operating in the Douglas fir region

7 TONS OF PRECISION for FAST, ACCURATE VENEER JOINTING



A fine watch won't outperform the engineered precision you get with the Merritt-Solem Traveling Head Veneer Jointer. The Jointing of high quality veneers, that demand perfection, is an easy matter when this Jointer is on your floor.

With the Merritt-Solem Veneer Jointer you can expect and get everyday performance with an accuracy of .003" in 16 feet. With an infinitely variable cutting speed of up to 75 feet per minute, you can step up production. Push button controls at 2 operating stations eliminate wasted motion, cut down handling time.

FOR A DETAILED DESCRIPTION OF THE MERRITT-SOLEM TRAVELING HEAD VENEER JOINTER

SEND

MERRITT

Coupon for brochure No. J53-10-6

SOLEM **DIVISION OF SOLEM MACHINE CO.,**

119 SOUTH NIAGARA STREET, LOCKPORT, N. Y.

Name.....

Title.....

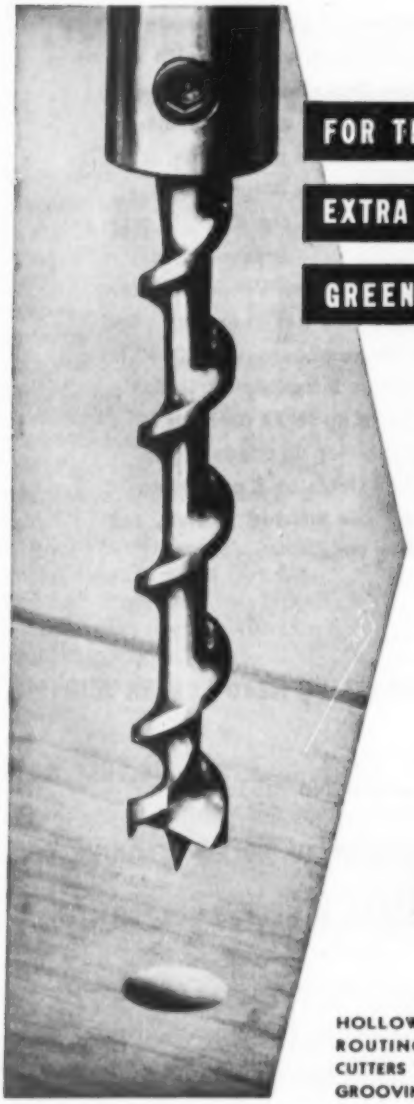
Firm.....

City.....Province.....

of Oregon and Washington which will convert leftover wood into many new products ranging from new wood panels to fertilizers. Many hundreds of new jobs will be provided by industry and millions of dollars will be invested in these modern processing plants, according to Roy F. Morse, chairman of the Industrial Forestry Association. Diversification is also seen as a good weapon to combat the effects of a slump.

Many firms see in the improved utilization an opportunity to strengthen the northwest's economy by providing more jobs and hundreds of new products from wood once used only for generation of steam and power, for domestic fuel or not used at all. Morse cites as example a plant soon to be built which will convert planer-mill shavings treated with synthetic resin into a new particle board. Another plant is converting leftover wood into a mulch land extender with fertilizer properties injected.

Now 700 million bd. ft. of wood, once of little value, is being chipped each year at 150 sawmills and plywood plants for kraft pulp mills. Promotion of proper uses for lower grades of lumber has also enabled loggers to bring out 25% more wood from every acre and created a market for some two billion feet of these grades.



FOR THE TOUGH JOBS...

EXTRA STURDY, SOLID-CENTER

GREENLEE MACHINE BITS

On these boring jobs where you need an unusually sturdy tool you'll find the GREENLEE Solid-Center Machine Bit an outstanding performer. Its husky stem, or solid center, is a round section continuing from point to shank and increases in size toward shank . . . allowing proper clearance, yet a heavier body where strain occurs. Its accurate cutting edges are of extension-lip pattern with two cutters.

Write for facts. Greenlee Tool Co., 2154 Herbert Avenue, Rockford, Illinois.

TOOLS FOR CRAFTSMEN

GREENLEE

HOLLOW CHISELS • MACHINE BITS • DRILLS
ROUTING BITS • MULTI-SPUR BITS • PLUG
CUTTERS • COUNTERSINKS • MAKERS OF TECO
GROOVING TOOLS FOR TIMBER CONSTRUCTION

Wheatboard Threat to Wood

Wheat, of all commodities, now looms as a possible threat to encroach on the future markets of the nation's processors of wood. An independent Washington, D. C., researcher, Stanley F. Reed, has discovered a way to press this grain into boards which can be used to build houses and furniture. He was spurred into action on a challenge from a congressional committee member investigating ways of using up the government's more than a billion dollars of surplus wheat.

Reed claims he has discovered a way to puff up the wheat about the same way breakfast cereal manufacturers produce puffed wheat and then compress and fuse it into "boards." One bushel of wheat will make a sheet of material 4 x 12 ft. and 1 in. thick which will be "as strong as wood and stronger than most fiberboards." It is further claimed the wheat board can be produced for 60 to 75% of the cost of present wall or plaster boards.

Reed says he picked wheat for his experiments only because it represented the government's biggest surplus problem. At present there are no plans to go into production of the material.

RESEARCH

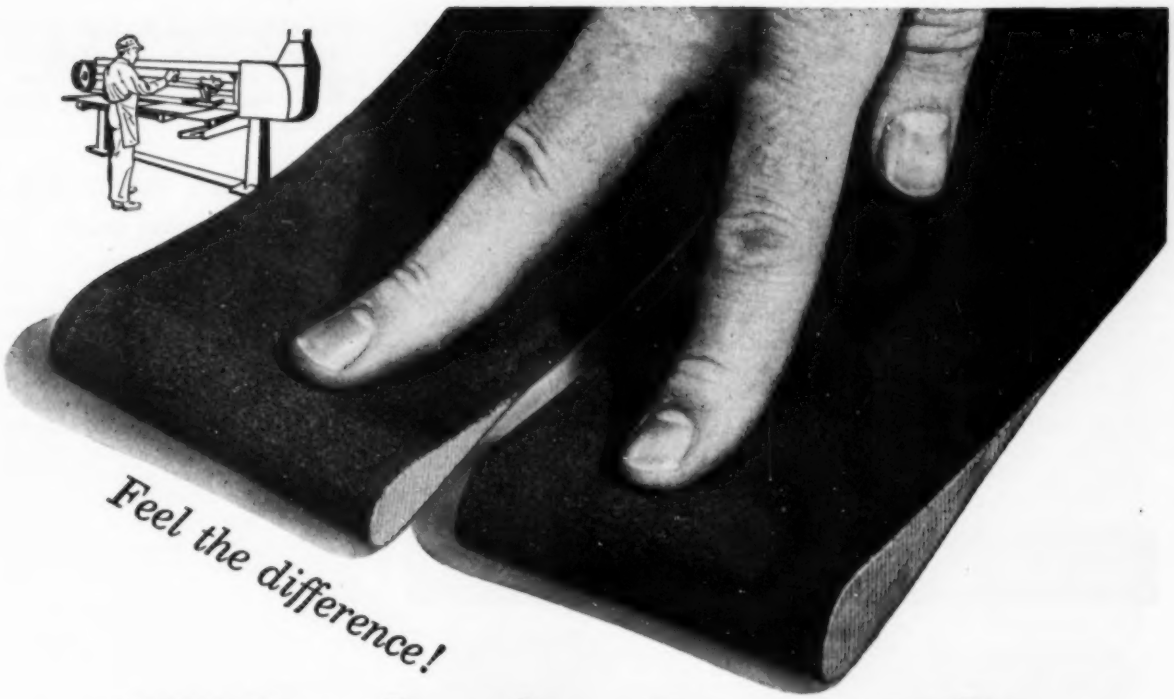
Fluid Curbs Lightning Fires

A "secret" fluid is being tested that reportedly makes clouds discharge lightning horizontally instead of vertically, thus helping to prevent forest fires caused by lightning. Fred Herbert of the California Division of Forestry told the Sierra-Cascade Logging Conference recently that the Universal Air Service of Palo Alto sprayed the chemical into cumulus clouds over state forests in six tests last summer, and that more tests are scheduled this summer.

Tests this summer will include a federally-sponsored study of the possibility of firing ground based rockets into cumulus clouds where they will discharge the chemical. Last year lightning set 1,476 fires in California, destroying millions of dollars worth of timber.

Oak Wilt Control Shows Gain

It is now expected that oak wilt disease, once dreaded as a potential destroyer of America's $2 billion oak forest resources, can be reduced from a menace to a nuisance by control methods developed in a three-year research program sponsored by the nation's oak using industries, according



3M Production Paper Belts are always sharper!

Blindfolded stroke sander operator picks Production Paper belts 20 times out of 20!

Yes, in this actual test, a blindfolded operator was asked to feel the difference between 20 different Production Paper belts and a like number of ordinary stroke sanding belts. He found Production Paper belts *sharper* every time!

Production Paper belts *feel* sharper because they *are* sharper. Their *extra sharpness* guarantees you the best possible stroke sanding job, *if you let the belt do the work.* By this method you get more production with less effort, better finishes faster, and a higher rate of cut for the entire belt life.

EXAMPLE: a Production Paper belt used for 6 hours still *cut off* all the wood fibre fuzz from a test panel . . . ordinary paper belt merely ironed the fuzz down!

Remember, for best white-wood sanding, always use Production Paper belts . . . and be sure to specify 3M every time you order. For complete information, write for booklet, "3M System of Furniture Finishing".

The final finish mirrors all previous operations

3M® ABRASIVES

Minnesota Mining & Mfg. Co.
Dept. WP-44, St. Paul 6, Minn.

☐ Send me the booklet "3M System of Furniture Finishing"

☐ I'd like to talk to a 3M Salesman

Name . . . . . Title . . . . .

Company . . . . . .

Address . . . . . .

City . . . . . Zone . . State . . . . .

Made in U.S.A. by Minnesota Mining and Mfg. Co. General Offices: St. Paul 6, Minn. In Canada: London, Ont., Can. Export: 122 E. 42nd St., New York City. Makers of "Scotch" Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "3M" Adhesives, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing.

to S. M. Nickey, Jr., Memphis lumberman and chairman of the National Oak Wilt Research committee.

More than $140,000 has been provided by the oak dependent industries in the past three years for intensive research into the problem by scientists in seven leading universities. New control methods have proven successful in experimental tests, but need some further development to make them practical for use in commercial timber stands. Among these are aerial spraying, or "bombing," and direct introduction into diseased trees.

"Many problems surrounding oak wilt still need solution," says Mr. Nickey, "but we now know America will not lose its tremendously valuable oak resources." The industry plans to extend the study for an additional two years to increase the practicality of new controls.

Grant Aids Pine Seed Study

A grant from the Forest Genetics Research Foundation has speeded current research on genetics of southern pines, according to Philip A. Briegleb, director of the Southern Forest Experiment Station, New Orleans. The Foundation's grant, which has been made to the Committee on Southern Forest Tree Improvement for a study of geographic races of four species of pines, will be administered by the Experiment Station.

MATERIALS HANDLING

Handling Standards Sought

Asserting that standards for handling material are necessary to the United States economy and defense, representatives of industry, the armed forces and governmental departments have voted to organize a committee to study and develop American standards for pallets. Forty leaders of industry and government proposed that an American Standards Association project be initiated to undertake the standardization of nomenclature, sizes, materials and components of pallets, including samplings, inspection and test procedures.

Industrial groups represented included lumber, packaging, shipping, railroads, trucking, materials handling and insurance.

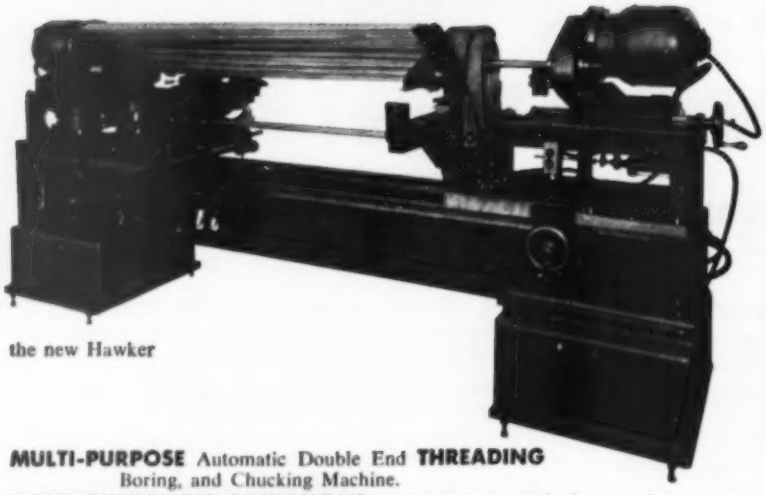
EDUCATION

Plan Kiln Drying Course

Practical techniques in seasoning and kiln drying lumber and wood products will be given during the 37th short course in dry kiln operation scheduled April 26-May 1 at State University of New York College of Forestry, Syracuse. Specially organized to concentrate on information most helpful to men in industry taking the training, the course will be given by men drawn from industry and from the college faculty and research staff.

Harold B. Gatslick, dry kiln specialist in the Dept. of Forest Utilization, will be in charge of the training in kiln drying and seasoning. He will also arrange for the contributions of other experts.

another new HAWKER MONEY-MAKER



the new Hawker

MULTI-PURPOSE Automatic Double End **THREADING** Boring, and Chucking Machine.

EIGHT AUTOMATIC OPERATIONS in one pass through the machine as many as eight separate automatic operations can be performed on a single work piece at a very high rate of production.

AUTOMATIC HOPPER FEED handles round, square, or rectangular stock. Positive feed to work table, positive indexing across work table.

POSITIVE SELF CENTERING AND EQUALIZING STOCK CLAMPS: no improper or off-center chucking.

STANDARD CHUCKS: new Hawker engineered to save your present investment in standard chucks.

MINIMUM SET-UP TIME: each chucking head adjusts separately. You get maximum set-up versatility in minimum time!

GET IN TOUCH WITH HAWKER TODAY! Get the full story on this and other new Hawker production machine tools for the woodworking industry.

HAWKER

MANUFACTURING CO.

1449 KEOWEE STREET, DAYTON 4, OHIO

MACHINES FOR THE NEW AGE OF WOOD

COMING EVENTS

April 13: Material Handling Institute, Drake Hotel, Chicago.

April 5-7; Southern Pine Association, 39th annual meeting, Roosevelt Hotel, New Orleans.

April 29-30; Northeast Meeting, FPRS, Williamsport, Pa.

May 5-7: National Meeting, FPRS, and Woodworkers Industry Show, Grand Rapids, Mich.

May 21-22: Redwood Region Logging Conference, Ukiah, Calif.

Now available at Associated Warehouses

Now there are *two* kinds of Sea Swirl—select *and* knotty. The demand for this decorative fir plywood grows and grows. With the addition of Knotty Sea Swirl, we hope to increase production to the point where everyone will be happy.

Knotty Sea Swirl comes in interior and exterior types, in 4'x8' panels, 5/16" thickness. Other sizes on special order.

Contact the closest Associated warehouse for Sea Swirl and for all of your plywood needs. We welcome your inquiries.

APM

ASSOCIATED PLYWOOD MILLS, Inc.

GENERAL OFFICE: EUGENE, OREGON

Plywood plants at Eugene and Willamina, Oregon.

Lumber mill at Roseburg, Oregon.

BRANCH SALES WAREHOUSES:

4268 Utah St., St. Louis, Mo.
4814 Bengal St., Dallas, Texas
4003 Coyle St., Houston, Texas
1026 Jay St., Charlotte, N. C.
Raleigh, N. C.
Worley Road, Greenville, S. C.
925 Toland St., San Francisco, Cal.
Eugene, Oregon
Willamina, Oregon

SALES OFFICES:

31 State Street, Boston, Mass.
595 E. Colorado St., Pasadena, Cal.

CURRENT LUMBER PRICES

These prices are made available by George Land, publisher of the weekly *Hardwood Market Report*, in his copyrighted issue of March 6, 1954. For the entire list, contact Mr. Land, Box 5716, Memphis 4, Tenn.

Note: Each price change from preceding issue is marked by an asterisk (*).

SOUTHERN HARDWOODS

F.O.B. mills—Texas and Louisiana area. Estimate of present mill point average market price, to consuming trade on band-sawn Southern Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

ASH—FIRM TEXTURE	FAS	No. 1C	No. 2C
4/4-in.	160	120	60
6/4-in.	170	125	66
8/4-in.	190	150	80

BASSWOOD			
4/4-in.	160	135	83
6/4-in.	170	135	87
8/4-in.	180	145	90

BEECH			
4/4-in.	125	100	55
6/4-in.	140	110	60
8/4-in.	167	127	72

CHERRY	FAS	No. 1C	No. 2C
4/4-in.	220	150	90
6/4-in	240	170	95
8/4-in.	250	180	100

RED GUM—PLAIN			
4/4-in.	205	150	75
6/4-in.	230	170	75

RED GUM—QUARTERED			
4/4-in.	220	165	75
6/4-in.	250	190	90
8/4-in.	260	200	95

SAP GUM—PLAIN			
4/4-in.	122*	102*	50*
6/4-in.	135*	115*	53*
8/4-in.	153*	127*	

HACKBERRY			
4/4-in.	115*	95*	65*
6/4-in.	132	112	76
8/4-in.	135	113	75

SOFT MAPLE—WHAD			
4/4-in.	130	110	67
6/4 in.	145	120	77
8/4-in.	155	125	80

SOFT MAPLE—WHND			
4/4-in.	115	90	60
6/4-in.	130	105	75
8/4-in.	135	110	80

RED OAK—PLAIN			
4/4-in.	175	100	72
6/4-in.	190	130	
8/4-in.	200	140	

WHITE OAK—PLAIN			
4/4-in.	185	110	72
6/4-in.	200	140	
8/4-in.	205	145	

PECAN			
4/4-in.	112	92	50
6/4-in.	130	110	60
8/4-in.	155	130	65

POPLAR—PLAIN	FAS	SAS	No. 1C
4/4-in.	170	160	130
6/4-in.	185	175	140
8/4-in.	206	195	160

SYCAMORE—PLAIN	FAS	No. 1C	No. 2C
4/4-in.	115	95	60
6/4-in.	127	107	62

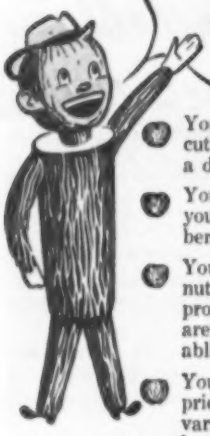
TUPELO—PLAIN TUP TEXTURE—DEEP SWAMP			
4/4-in.	122	102	50
6/4-in.	135	114	53
8/4-in.	152	127	

WILLOW			
6/4-in.	142	122	67
4/4-in.	135	110*	58
8/4-in.	150	125	70

APPALACHIAN HARDWOODS

F.O.B. mills—Johnson City, Tennessee area. Estimate of present mill point average market prices on sales to consuming trade on band-sawn Appalachian Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars upper bracket grades premiums are frequently being paid.

WALLY WALNUT Says:



"Here's Why MIDWEST Offers You your BEST BUY in WALNUT"

- You buy a **specialized product.** We select, cut, and sell only Walnut lumber — not a dozen different woods.
- You buy a **quality product.** We supply you choice, usable steamed Walnut lumber, the best to be had.
- You buy a **specific product.** Steamed Walnut lumber, dimension, and squares—the products of our sawmill and dry kilns—are our specialty. Air dried stock is available for immediate shipment.
- You buy an **economical product.** Our prices are competitive. What's more, our varied locations usually mean delivery at lower freight rates.

Write TODAY for Detailed Prices or Other Information!

MIDWEST WALNUT CO.

COUNCIL BLUFFS, IOWA

WARTRACE, TENN. WILLOW SPRINGS, MO.

Patents Pending

The Marvelous Montgomery

BLO-HOG

(The only all-purpose hog in the world)

Eats Up Everything!

. . . including Pine, Oak, Gum, Hickory, Elm, Wet Veneer, Round-up and Sandy Bark. Conveyor-fed—no attendant required. Positively protected from major damage by tramp steel. All connections locked — nothing to shake loose. Maintenance costs unbelievably low.

". . . Dear Mr. Montgomery: It is an unbelievable machine and it is still hard to believe that it is actually handling the enormous volume of scrap we are feeding into it. We operate the hog without an attendant—which means a considerable saving.—J. B. Black, Plant Superintendent, Ocala Manufacturing, Ice and Packing Co., Ocala, Fla."

C I T Terms Available

Write for bulletin and details

JACKSONVILLE BLOW PIPE CO.

P. O. Box 3687
Jacksonville, Florida

TOUGH ASH

	FAS	FIF	No. 1C	No. 2C
4/4-in.	170	160	115	68
6/4-in.	190	180	130	75
8/4-in.	200	190	150	85

BASSWOOD

				No. 2A
4/4-in.	180	170	130	88
6/4-in.	190	180	137	90
8/4-in.	195	185	147	96

BEECH

				No. 2C
4/4-in.	145	135	110	65
6/4-in.	160	150	120	75
8/4-in.	170	160	130	80

BIRCH

4/4-in.	265	255	150	80
6/4-in.	275	265	160	85
8/4-in.	280	270	165	90

BUCKEYE

4/4-in.	135	125	100	65
6/4-in.	165	155	120	72
8/4-in.	170	160	125	78

CHERRY

4/4-in.	230	220	150	90
6/4-in.	250	240	170	95
8/4-in.	260	250	180	100

CHESTNUT

	FAS	No. 1C	FAS WHND	1C & B WHND
4/4-in.	170	120	137	127
6/4-in.	175	125	142	132
8/4-in.	180	130	152	142

HICKORY

	FAS	FIF	No. 1C	No. 2C
4/4-in.	125	115	78	53
6/4-in.	145	135	86	58
8/4-in.	170	160	90	60

HARD MAPLE

4/4-in.	205	195	135	80
6/4-in.	220	210	155	84
8/4-in.	235	215	160	90

SOFT MAPLE

4/4-in.	165	155	115	67
6/4-in.	175	165	135	69
8/4-in.	180	170	140	75

RED OAK—PLAIN

4/4-in.	185	175	120
6/4-in.	200	190	140
8/4-in.	215	205	145

WHITE OAK—PLAIN

4/4-in.	200	190	125
6/4-in.	220	210	145
8/4-in.	235	215	155

WHITE OAK—WHND

	FAS	FIF	C & B	No. 1C
4/4-in.	125	115	95	90
6/4-in.	150	140	120	115
8/4-in.	160	150	130	120

YELLOW POPLAR

	FAS	FIF	No. 1C	No. 2A
4/4-in.	210	200	138	88
6/4-in.	220	210	150	92
8/4-in.	225	215	155	95

POPLAR SQUARES

	FAS	No. 1C & SD
4x4-in.	245	175
6x6-in.	280	190
8x8-in.	340	240

WALNUT—STEAM TREATED

	FAS	FIF	No. 1C	No. 2C
	6"&up	6"&up		
4/4-in	270	225	150	75
6/4-in.	295	250	215	90
8/4-in.	420	375	235	95

Walnut list reflects average fob mill, all areas. Basing point not generally observed.

NORTHERN HARDWOODS

Estimate of present f.o.b. Wausau, Wisconsin mill point average market prices to consuming trade on band-sawn Northern Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

BROWN ASH

	FAS	No. 1C	No. 2C
4/4-in.	155	107	75
6/4-in.	165	122	85
8/4-in.	170	133	90

BASSWOOD

4/4-in.	191	131	80
6/4-in.	201	141	90
8/4-in.	206	151	98

BEECH

4/4-in.	145	100	68
6/4-in.	160	115	78
8/4-in.	165	120	80

BIRCH

4/4-in.	296	151	81
6/4-in.	306	166	91
8/4-in.	311	181	100

ROCK ELM

4/4-in.	150	130	66
6/4-in.	160	140	76
8/4-in.	165	150	81

SOFT ELM

4/4-in.	140	120	72
6/4-in.	150	130	82
8/4-in.	155	135	87

HARD MAPLE

4/4-in.	196	131	78
6/4-in.	206	141	81
8/4-in.	216	151	88

SOFT MAPLE

4/4-in.	160	125	78
6/4-in.	175	135	85
8/4-in.	190	145	93

RED OAK

4/4-in	186	126	78
6/4-in.	196	146	83
8/4-in	206	156	88

HANCHETT

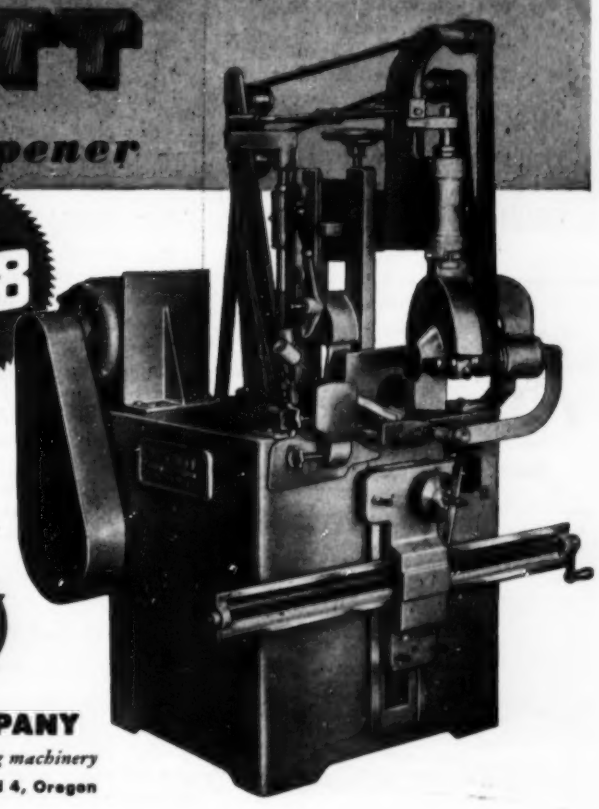
AUTOMATIC

circular saw sharpener

FOR RIP AND CROSSCUT

CIRCULAR SAWS

948



Highly recommended for smooth trim saws.

Full range of bevel grind on cross cut teeth from slight bevel to extreme bevel of 50°.

Standard speeds 32 teeth per minute.

Equipped for faster or slower speed when ordered.

Totally enclosed feed mechanism with many other exclusive features.

Capacity 8" to 48" diameter saws.

Can be equipped for grinding inserted tooth cut-off saws.

COVEL HANCHETT

HANCHETT MANUFACTURING COMPANY

World's largest manufacturer of knife grinding and saw sharpening machinery

MAIN OFFICE — Big Rapids, Michigan WEST COAST — Portland 4, Oregon

When the call "Timber!" comes booming out of the deep woods, strange words follow. Expressions like "dead man," "gutter road," "rosser." And take "pigtail." That is translated into "an iron spike driven into a tree to support a line."

Manufacturers of lumber products can cut loose with strange words too. But when they're dealing with Pamudo, they use clear, concise English. They know this seasoned firm means business whether it's quotations or shipments of woodworking items.

FIR PLYWOOD AND LUMBER PRODUCTS THROUGH WAREHOUSES AND DIRECT CARS FROM TACOMA.

Sales Agents, Hardel Mutual Plywood Company
Olympia, Washington

Pamudo
PACIFIC MUTUAL DOOR CO.
General Office
RUST BUILDING, TACOMA 1, WASHINGTON

FROM TACOMA: Straight and Mixed Cars • Lumber and Lumber Products • Mouldings Cut-to-Size Industrial Plywood Cut Stock • Fir Plywood

WAREHOUSE STOCKS
PLYWOOD • DOORS • MOULDINGS
STOCK MILLWORK

WAREHOUSES
• St. Paul 4 • Chicago 38
• Kansas City 5, Kan. • Baltimore 31
• Elizabeth, New Jersey

LETTERS to the EDITOR

Production Gauges

Editor, WOOD & WOOD PRODUCTS:

Please send us two copies of "How Production Gauges Eliminate Waste and Cut Costs," as offered in your March issue.

—B. Co., Ohio.

Editor, WOOD & WOOD PRODUCTS:

We would appreciate receiving the complete report on "How Production Gauges Eliminate Waste and Cut Costs."

—S. H. Co., Tenn.

Editor, WOOD & WOOD PRODUCTS:

Please send me a copy of the complete report on tolerances and dimensional gauges as described in your article on Page 20 of Wood & Wood Products for March, 1954.

—A. & Co., Ohio.

Automatic Feed Belt Sander

Editor, WOOD & WOOD PRODUCTS:

We received your January, 1954, issue and are very interested in having the address of the company that has the automatic feed belt sander described and illustrated on Page 25. Please send us their address or forward this letter to them as we desire all the information they have on this sander.

—N. E. Casket Co., Mass.

Blue Cottonwood

Editor, WOOD & WOOD PRODUCTS:

For several years we have been using a type of wood called blue cottonwood. It is our understanding that it is regular cottonwood that has been submerged in the Mississippi river or in swamp areas and is floated to the surface during flood seasons. It supposedly is more stable than white cottonwood, but we have no definite technical information on it.

Do you have any information pertaining to this material, or do you know of someone we could write to regarding its various physical properties?

—H. M. Furniture Co., Mich.

"Reconstituted Wood"

Editor, WOOD & WOOD PRODUCTS:

In your February issue, on Page 30, there is an item that interests me greatly and I am asking if you can give me the correct address to get all information concerning this new process ("Castwood"). Whom should I write to find out if this material is all going to be manufactured on the West Coast? This is an item that we could make use of.

—G. J. B., Inc., Ill.

New Chipboard Unit Popular

Editor, WOOD & WOOD PRODUCTS:

On Page 24 of your December, 1953, issue appeared an article on the "New Chipboard Unit at Berkline." On the information given in your article we believe the process might be utilized in conjunction with our present operations involving two sawmills and a modern case factory in Brisbane. It would be appreciated if you would supply the name and address of the manufacturer or forward our inquiry.

—C. W. L., Australia

Editor, WOOD & WOOD PRODUCTS:

We read in your December, 1953, issue an article about a new chipboard unit. The new development is quite interesting. We thought you might assist us by forwarding the address of the company. Would appreciate it very much.

Incidentally, we are today renewing our subscription to your remarkable magazine.

—L. P., Inc., Philippines.

Casting Resins

Editor, WOOD & WOOD PRODUCTS:

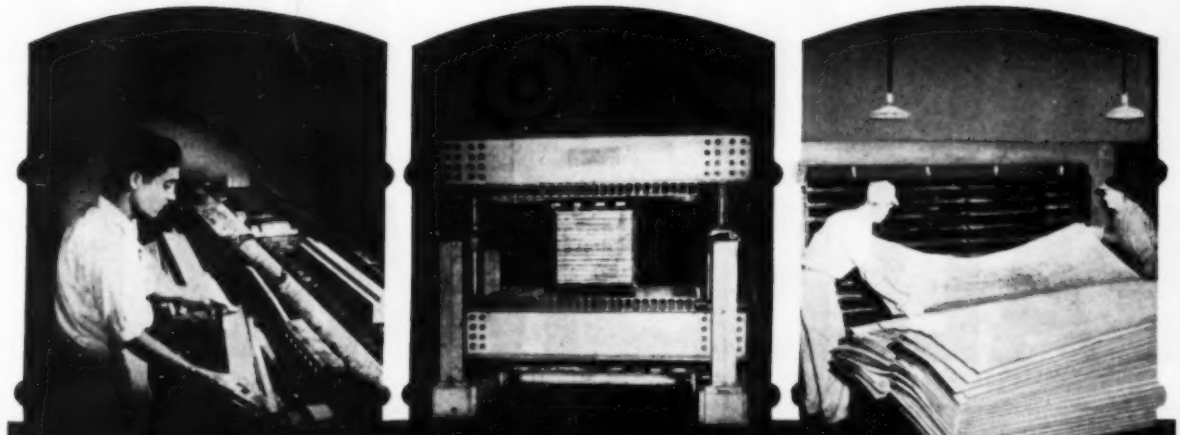
As a constant reader of Wood & Wood Products, I have become quite interested in your articles relative to the use of wood wastes with casting resins. I would like to receive more specific information regarding the types and costs of machinery for the installation of such a plant, together with information about the casting resins.

I thoroughly enjoy your magazine and find it very informative, particularly in respect to wood processing and furniture which I hope soon to begin producing on a small commercial scale.

—R. P. M., Ga.

Wood Products Safety Meeting

The Wood Products Section of the 15th annual Southern States Safety Conference met March 7-9 in Louisville, Ky. The meeting featured sessions on engineering aspects of safety, effect of employee health on safety, and accident prevention.



CASCO-RESIN 5H saves money

(65% P. M. M. A. SOLIDS)

on every urea resin gluing job

CASCO-RESIN 5H does all urea resin gluing jobs. When you buy in greater volume, you save on every pound. With its wide variety of catalysts, CASCO-RESIN 5H does an outstanding job in R/F or steam-heated edge gluing, veneer edge-banding, as well as extended or unextended cold and hot pressing of plywood and panels.

But that's not all. 5H has long storage life . . . over 6 months at 80° F. It's fast curing without sacrifice of pot life or assembly time. It produces bonds with high water resistance. It washes off your equipment easily. Saves storage space and handling costs.

Also available in 60, 50 and 45% solids.

We'd like to prove all these points with a trial run in your plant. Write: The Borden Company, Chemical Division, Dept. W-44, 350 Madison Avenue, New York 17, N. Y.

INDUSTRIAL ADHESIVES

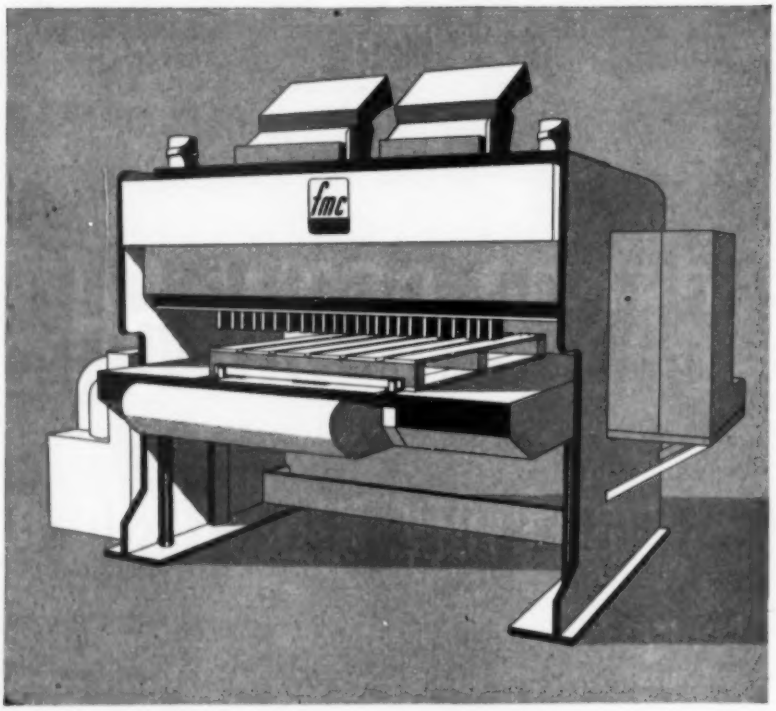
THE Borden COMPANY

CHEMICAL DIVISION

POLYVINYL . . . CASEIN . . . UREA RESIN . . . PHENOL RESIN . . . RESORCIN RESIN . . . EPOXY RESIN . . . ADHESIVES

PREVUE OF NEW PALLET MAKER

NOW YOU CAN MACHINE-NAIL HARDWOOD PALLETS WITH AN fmc SEMI-AUTOMATIC PALLET MAKER



HERE ARE A FEW OF ITS MANY LABOR-SAVING, MONEY SAVING FEATURES

THE FMC PALLET MAKER IS—
An entirely NEW machine designed especially to machine-nail hardwood pallets—not just adapted to this service. It's designed for heavy-duty, continuous-duty operation.

THE FMC PALLET MAKER IS—
Massively and ruggedly constructed.

THE FMC PALLET MAKER IS—
Easy to install, operate and maintain. Adjustments to different nailing patterns are easily made in matter of seconds.

THE FMC PALLET MAKER HAS—
Heavy-duty nail chucks to support nails during *complete* length of drive. No more bent nails.

THE FMC PALLET MAKER—
Drives all nails to required depths; no misses or variables in the FMC positive drive.

Write Today for Full INFORMATION

TRADE MARK
MS 154

The *new* FMC semi-automatic PALLET MAKER has many more engineering features that will save you money in machine-nailing hardwood pallets.

FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION: RIVERSIDE, CALIFORNIA

Results Speak Louder Than Anybody

Listen to a management man tell about the benefits gained from a forward step he has taken in modernizing some operation in his business. Sooner or later you'll hear him say, "The results are so remarkable, I wonder why I didn't do this long ago."

If you don't believe that, check a "case history" or two. Grab your hat and visit a plant with problems similar to yours where production has been streamlined or some operation conveyorized, or where new and more efficient machines have replaced costly, outmoded units. Or where a system has been developed for utilizing economical low grades of lumber in the production of high-quality finished goods. Or where other improvements have been effected which showed up quickly in smoother production, better quality products and increased profits.

Go and ask management in those plants what they did and what was gained. You'll soon be convinced that modernization pays dividends. If your plans are right and you follow through intelligently, it will pay off for *you*.

Take the desk manufacturer whose modernization story is told and pictured in this issue of Wood & Wood Products. Ask him what happened when he replaced a wheel-type clamp carrier with a new continuous edge-gluing machine: *"Speeds up production with half the manpower formerly used."* Ask what his new cut-off saw, surfacer and planer arrangement has accomplished: *"Saves three men, improves quality, materially increases output."* Ask what his new hot press does as compared to the smaller capacity cold press it replaced: *"Speeds up work, improves quality."* Ask for the results of his new double cut-off saw replacing a manually operated push-table equalizer saw: *"Improves accuracy of sawing operation and greatly increases output per hour in use."*

Summing up, he'll tell you further: *"This new equipment removed bottlenecks in our production line to such an extent that the units are used only part time and the operators can be used in other places to expedite production, instead of congesting the flow of production as previously. This also results in reducing floor space necessary to store stock in process."*

If you are convinced that you have something to gain from this smart manufacturer's experience, take stock of your needs now. Start in by checking these five points, advocated in our recent editorials and repeated here for your convenience:

1. *Check your raw materials*—is anything better obtainable for the end-product?
2. *Check your plant layout*—is it streamlined for maximum efficiency, minimum lost motion and waste?
3. *Check your workers*—are they properly trained to understand the need for quality and cost control, for speed, for maximum effort, and do they know what these things mean in terms of job insurance?
4. *Check your machines and equipment*—can you save money, cut costs, speed up output, produce better finished goods with more modern, efficient units?
5. *Check your management and marketing policies and methods*—are they geared to the new, more competitive pace of the times?

When you've carried out your plans and had time to judge them in actual performance, you'll likely find—with our desk manufacturer friend and many others like him in the wood industry—that "results speak louder than anybody."

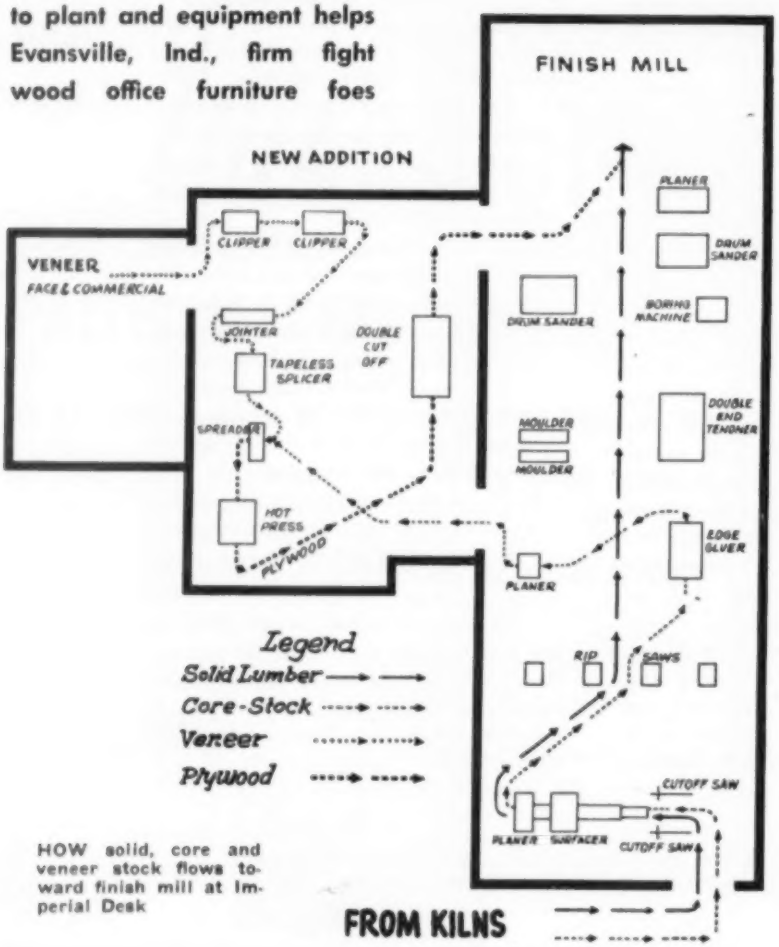
P.S.—For fresh ideas and a view of what's new "in the flesh," try the Woodworking Industry Show in Grand Rapids, Mich., May 5-7.

1.—STOCK from kilns meets cutoff saw (foreground). Conveyor then takes it through surfacer and planer (rear)

2.—RIPSAWS, four of them, are conveniently located between planer and edge gluer

Plywood Unit, Modern Machines Streamline Desk Production

$150,000 spent for addition to plant and equipment helps Evansville, Ind., firm fight wood office furniture foes



HOW solid, core and veneer stock flows toward finish mill at Imperial Desk

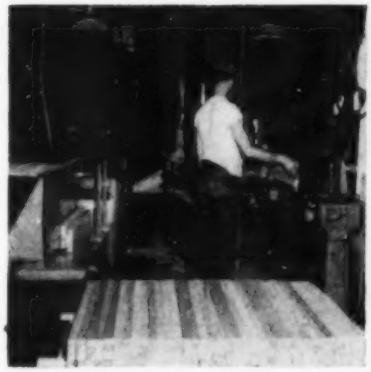
A PLANT MODERNIZATION PROGRAM is successful only if it achieves the desired results – and you hear no complaints at Imperial Desk Co. It was a year ago last August that this Evansville, Ind., manufacturer of office furniture completed a two-story addition of 15,000 sq. ft. and chose at the same time to effect a more efficient alignment of its rough mill layout. Total expenditure for the addition and new machinery exceeded $150,000. Again no complaints – the program has fulfilled its promise.

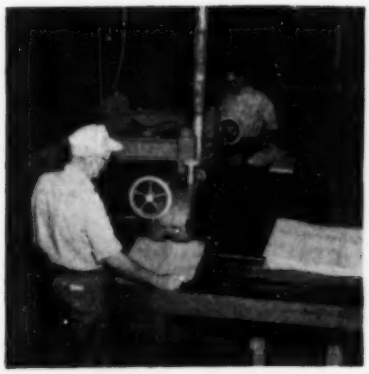
Unlike many competitors who have since fallen by the wayside, this 40-year-old company has a record of alertness to growth and expansion. Three major building programs have left their mark on the plant which began in a small one-story building in 1912, but none was more significant than this latest move which strengthened the firm's competitive position in the fight for wood office furniture markets.

Involved in the transformation was a decision on the part of the management to equip this plant so that it would be capable of making all its own plywood. Timeliness of this investment has proven itself in that the firm has been able to improve and control quality in the production of the finer office desks in which it specializes. Also favorably affected is production of an extensive line of school desks. Control of the plywood making operation has created more flexibility in planning.

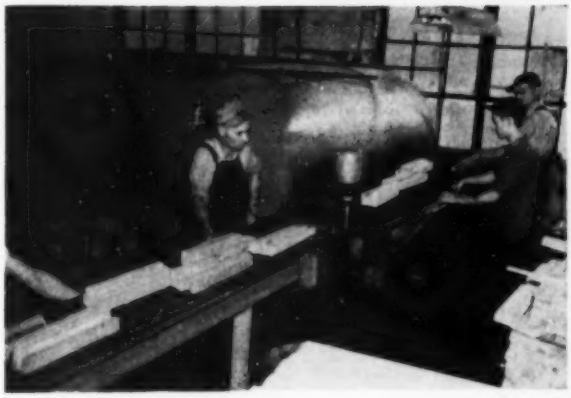
Machinery and equipment throughout the main floor—rough mill, plywood department and finish mill—underwent close scrutiny and study well in advance of completing the new addition. The objective was to lay out the entire operation to obtain best flow of stock and maximum production.

The management now reports, "This





3. UPPER LEFT—Moulder equipped with return feed mechanism. 4. UPPER RIGHT — Veneer panels being bonded in modern tapeless splicer. 5. LEFT BELOW—Modern edge gluer lays up cores quickly, efficiently. 6. RIGHT BELOW—Late Model multiple opening hot press bonds veneer to cores. Conveyor table eases handling chore from glue spreader (background). 7. LOWER RIGHT—Plywood being run through double cutoff machine before leaving new addition on way to finish mill



new equipment, such as the edge gluer and double cutoff saw, has removed bottle necks in our production line to such an extent that some machines are used only part time. Operators can be used in other places to expedite production instead of the flow congesting at these points as was previously the case. This results also in reducing floor space necessary to store stock in process that used to accumulate at these points before the new equipment was installed."

Beginning at the far end of the older part of the building, lumber (both core stock and solid) comes out of the kilns into the plant on a chain conveyor. Here operators stationed at two automatic cutoff saws cut the lumber as required and the stock is fed automatically through a new conveyor-connected surfacer and planer arrangement. The combined operation is now accomplished with three less men than usual, output is materially increased and quality improved.

Solid stock for legs, drawers and other uses is then trucked straight down the center aisle. On the way to the finish mill it undergoes necessary operations at the double end tenoner, at one of two moulders equipped with return feed mechanism which provides increased efficiency with less labor, at the boring machine, drum sanders or planer as required. At the finish mill the stock is further processed by shapers, variety saws, bandsaws, automatic lathes, routers and mortising machines in preparation for assembly.

Meanwhile the core stock has had to move only a few feet from surfacer and planer to a battery of four ripsaws ready to prepare glue joints. Close by the ripsaws is the modern edge gluer by means of which desk cores are laid up with resin glue and cured with steam. The new model gluer replaced a wheel carrier with hand clamps and speeded up production with half the manpower.

Cores are of poplar or "blue cottonwood," the latter a cottonwood of more than usual stability and of bluish color by virtue of having been under water as long as 20 to 25 years in the Delta region of the Mississippi River.

From the edge gluer, the cores move through the planer and into the plywood department in the new addition located midway of the old building. In the plywood department the veneer stock has gone through the clippers and on to the edge jointer. Next, glue is sprayed on and the veneer stock is run through the tapeless splicer. The veneer is then ready to meet the cores at the glue spreader before both are bonded in the new multiple-opening hot press. Previously, a cold press of smaller capacity was used.

From there the panels are sent through the time-saving double cutoff machine (which replaced a manually operated push table equalizer saw) and back into the older part of the building to the finish mill. An inspection of solid and glued-up stock takes place before the separate parts are taken to the lift en route to the second floor. In the new addition on the second floor are all the sanding operations, with the exception of the drum sanding done on the main floor.

Then comes the actual desk assembly, principally a hand operation which begins with putting the desk ends in clamps, on to the pedestal

Continued on Page 40

1.—VIEW looking along cutoff line, showing relationship of waste hog to cutoff saw

2.—AUTOMATIC in-feed at end of cutoff line feeds ripsaw, used for truing up one edge of every board

3.—PLANERS so arranged enable 3 men to surface both faces of stock. Here man off-bears first planer, feeds second

4.—TOP DRUM and bottom drum triple-drum sanders are connected by conveyor belt. Two men sand both faces of stock

How Production Controls Save Widdicomb Thousands Per Year

Plant is efficient and well-kept — Production cost control system told by "Sandy" Stuart, exec. vice-president

A STREAMLINED, WELL-KEPT PLANT and close attention to quality and cost control make up top management's blueprint for keeping John Widdicomb Co. in the thick of the battle to meet today's competition.

From the outside, it's the same Grand Rapids, Mich., furniture plant. Inside, there's a quickened tempo of production, an air of efficiency and unmistakable evidence of good housekeeping. It all adds up to modern methods deftly and securely joined to the skill of a traditional craft.

A trio of young, wide-awake men, working together as a team, has in large measure been responsible for the modernization. A. H. "Sandy" Stuart carries the ball as executive vice-president, ably complemented by Stephen D. Pryce, quality control engineer, and by John McPhee, chief engineer.

Many changes in physical plant layout, effected in the interests of streamlined production and better housekeeping, can be traced over the past several years to McPhee and his crew of eight versatile maintenance men and millwrights. Plants of this capacity seldom feel they can afford the luxury of so many maintenance men on the payroll, yet "Mac" is fully convinced they pay their way. He can prove it, too, by pointing to the increased dollar volume of goods produced by fewer employees. Coupled with lower labor costs is a consistent improvement in quality of product.

Following the course of stock through the plant, one can find evidence of all kinds of changes. For instance, the waste hog has been placed at the cutoff saw, where most of the waste accumulates. Lesser amounts of waste occurring elsewhere can be carted more economically to this location. Before the hog was installed, a truck periodically hauled away the waste.

Belt conveyors are another strong feature of the new look. Wherever feasible, they are used to transport stock from one machine to another. These, along with strategic placement of equipment, have spelled the answer to waste motion and use of manpower. At many stations along the line an off-bearer or feeder has been freed for other chores.

There's an automatic in-feed at the end of the cutoff line into the rip saw used for truing up one edge of each board. Planers have been so arranged that a three-man crew can surface both faces of stock on the two machines. There's also a combination arrangement of a top drum triple-drum sander and bottom drum triple-drum sander connected by conveyor belt so that two men can sand both faces of the stock. Three caul roller tables were designed and built to eliminate the handling of cauls at the two-opening hot plate press.

In the finishing department, a hand operated pallet-type roller conveyor serves an even more useful purpose. Not only does it make possible the movement of a variety of sizes, shapes and weights with a minimum of manpower, but, more important, it relieves able craftsmen from back-breaking labor and leaves them fresh to ply their skill. Lifts used along the conveyor were designed and installed by the maintenance crew.

The crew also has been responsible for such things as designing and building its own topping case clamp for use on vertically assembled components, designing and building a drill bit sharpener for grinding lip-type woodworking boring bits and installing new type dust collectors on the lathes. With the amount of work at hand, the crew has proved far more economical than the alternative of paying $5 an hour for labor alone at outside machine shops.

With these physical practices in force, the door was open for "Sandy" Stuart to introduce modern methods of production cost control aimed at keeping John Widdicomb Co. in a competitive position. Both the concept and actual practices of this control system were detailed by Mr. Stuart at the November, 1953 meeting of the Midwest Section, Forest Products Research Society, in Chicago. In part, he said:

"Cost accounting, in the last few years, has changed as radically as our manufacturing processes. The old method was for an estimator to get together with the different foremen and guess at the cost of a piece of furniture. Then the piece would be put on a cutting and run through the plant with the men reporting the time they worked on that particular piece. Time cards were eventually turned over to the accounting department and kept until the entire job was complete. These cards were usually separated by department and then totalled and compared with the estimated cost. By the time the accounting department had made an analysis, several months would have gone by.

"If a loss were being sustained, it was too late to do much about it. The records were such that no one knew exactly why a part cost too much, and therefore corrective action was not taken.

"Other objections arose in regard to time cards. Many of the men couldn't interpret and transfer the correct time and information to the cards; others didn't care if they put the right information down or not. A great deal of confusion was caused where there were interchangeable parts in different pieces of furniture; and, of course, any number of human errors occurred from the time the man made out the card until the clerk in the accounting department got through with the information.

"At best the method provided a questionable amount of old information about which not too much could be done. The excuse used to be in the old days that labor was cheap, material was cheap, and so control didn't make too much difference anyway.

"However, as labor marched on and got more expensive and materials got quite dear, management found out that it had to know exactly what was happening at all times. Therefore the standard cost system was evolved. By this method management does not know whether one particular part is making or losing money, but does know almost immediately just what departments are making or losing money, and by knowing immediately can find out the reasons why.

"One particular piece seldom causes trouble. Usually some basic departmental problem causes losses. With this method, it is preferable that actual operational standards be applied to the piece. To these is added predetermined indirect labor time, and the total becomes the standard for that particular piece. The times are kept separately by departments. As different pieces or parts leave a department within a given period of time, say a week, a record is kept.

"At the end of this period the foreman estimates the percentage of work done on the rest of the pieces within his department. These percentages are applied to the individual standards and the answers are all totalled to give the standard hours of work produced in that department. These are then compared to the actual hours in that department to determine whether the department is making a profit or not. This method will control production labor, but to be fully effective it must be accompanied by a complete departmental budget.

"This budget should control every single penny that is spent by the com-

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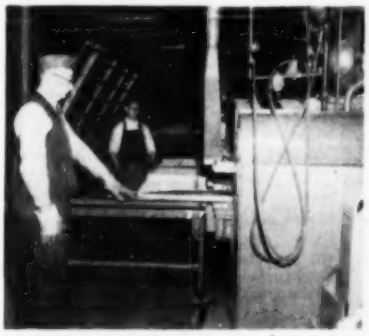
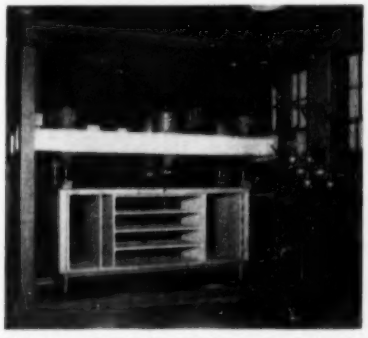
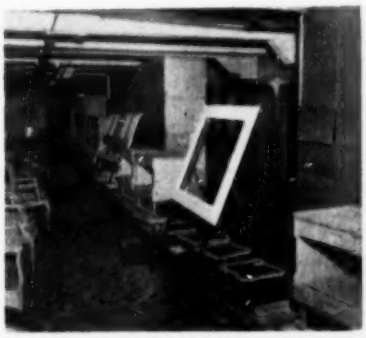


ROLLER tables eliminate handling cauls while feeding hot plate press



SELF designed topping case clamp, used on vertically assembled parts

GLUE block attachment for bandsaw slits stock, cuts it to length

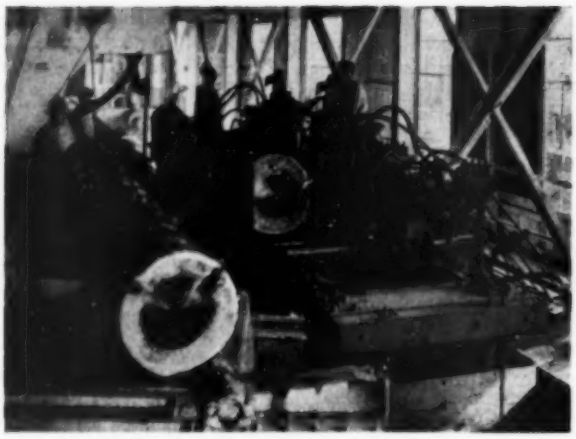


SKATE wheel finishing conveyor moves many items on easels, clips

Dimensional Control Aid to Small Sawmills

Gain statistical control of lumber thickness—Improve capability of sawmill — Rewards for operator are maximum yield, increased profits

By JAMES S. BETHEL
Director, Wood Products Laboratory
North Carolina State College



HEADRIG of Arkansas sawmill cutting southern pine

ONE OF THE MOST PERSISTENT criticisms leveled at that portion of the lumber industry which produces in small sawmills is that the product is not uniform in dimension. However, opportunities for increasing yields through better dimensional control are great and promise increased profits for the small sawmill operator.

Lumber which is inaccurately manufactured from the standpoint of thickness has much less utility than has well-manufactured lumber. Thick and thin boards create problems at the planing mill as well as for the ultimate user. One of the most serious consequences of inaccurate manufacture, however, is that it contributes to low yields and consequently, high costs and much waste.

It is customary, at least in the southeastern states, for planing mills which are buying 4/4 lumber from small sawmills to specify that the lumber shall be 1⅛ in. in thickness and to reject all boards that fall below 1 in. in thickness. The planing mill operator dislikes boards that are too thick because they overload his surfacing equipment and increase his waste problem.

He is more concerned, though, with boards that are too thin because to quote one of these operators, "You can take it off, but you can't put it on." As a consequence, the specification given to the small sawmill operator includes a minimum tolerance but usually not a maximum tolerance. It is the sawmill operator's problem then to assure that no appreciable part of his lumber exceeds the minimum tolerance.

Small sawmills, in common with all other pieces of manufacturing equipment, do not produce successive pieces of 4/4 lumber with precisely the same thickness. No matter how well maintained nor how well operated the sawmill is, the thickness of 4/4 boards which it produces will vary. If it is in fact, well constructed, maintained, and operated, it will operate in a state of statistical control, and the 4/4 lumber thickness will be normally distributed about an average thickness.

Fig. 1 illustrates the distribution of lumber thicknesses from such a sawmill. Fig. 2 shows a quality-control chart for a sawmill operating with reasonably good control. If the saw-

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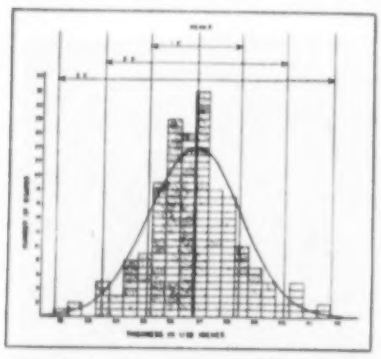

FIG. 1—Lumber thickness distribution from mill operating in control

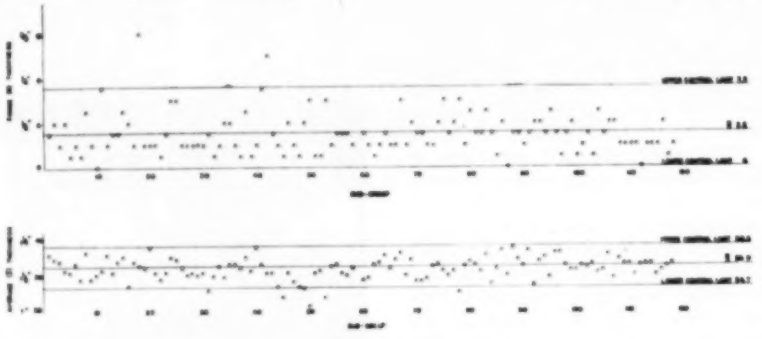

Fig. 2

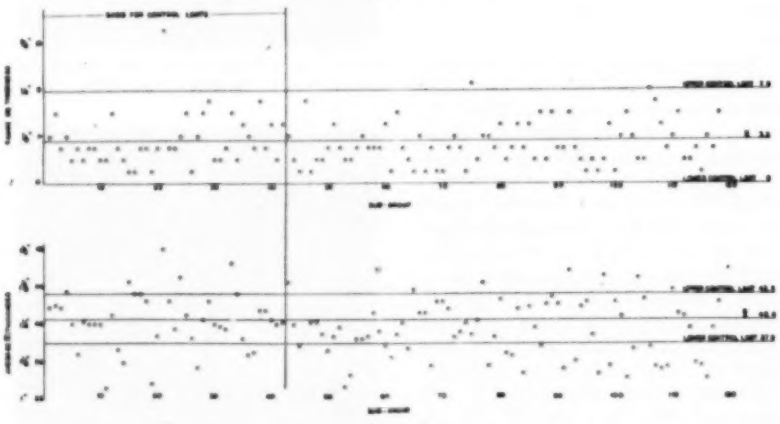

Fig. 3

FIG. 2 (above)—Sawmill chart which shows good control of lumber thickness
FIG. 3 — Chart for sawmill which shows poor control of lumber thickness

How Will the Wood Industry Look 50 Years From Now?

Logging by 'copter — Kerfless sawing—New uses for all the tree—Expanded markets seen for treated, fireproof lumber

By L. J. CARR
Gen. Manager, L. J. Carr & Co.

PRIOR TO THE TIME the wooden handled stone ax was first carried and used by prehistoric man thousands of years ago, the wooden stick was his weapon and tool. Since those early days in the history of the planet earth, the products of the forest have been serving man in ever increasing quantities and capacities. Today, we are all familiar with the part wood plays in our lives and the economy of our world here in 1954, early in the age of the atom.

With the power and research presently available to us in infinite quantities, are we seeing the beginning of the end of the wood age? What changes will time bring in the methods of using wood, the form of the wood used, its supply and demand? What effect will the increased competition of other materials developed to 1954 have on wood by the year 2004, or 50 years hence?

We could make a guess at all of the answers to these questions. However, let's use a little imagination and base it on facts as given us by the top researchers and scientists today. Let's skip ahead those 50 years to the year 2004 A.D. and imagine we are looking into the February issue of a magazine called, say, The Atomic Lumberman for that year.

What we will find here will seem fantastic, let me warn you. But let us remember it is based on the thinking of some of the best men in this industry today who are looking far into the future.

Thumbing through this trade journal of 50 years hence, we find wood in its many forms is more solidly entrenched in the world's economy than ever before. Here in the editorial columns we find that objectives of educational programs dating back beyond the 1950's are realities in the 2000's. The public has accepted trees as the only renewable resource in the world. And tree-crop growing programs dating back more than 60 years are providing a vast supply of fine trees for lumber and other forest products.

The goal of many far-sighted foresters of half a century ago—the balancing of forest growth with forest withdrawal—has been reached and far surpassed now in 2004. Forestry has obtained complete control of the long controllable factors which bothered it for so many years—such as diseases and insects.

Fire protection was being developed to a high degree in 1954, but now it is common to find whole forests going through fire seasons without noticeable loss to fire. Radar tracking of fires, the use of helicopters and chemical fire suppression all play important roles in this amazing record. Forests, too, are much cleaner in 2004 because of the vastly different logging methods used as compared with those of the mid-1900's, as we will see in a few moments.

By breeding stronger varieties, insect and disease damage in our forests has been greatly reduced. Outbreaks are discovered in advance due to wonderfully developed insect and disease guards—applications of dusts and sprays in appropriate quantities quickly suppress all chances of infestation and blight. Through genetics, the trees grown in this year of 2000-plus are stronger and healthier, as well. They withstand winds to a far greater degree than the average forest tree of 50 years ago, and hence are not weakened or lost before they are ready for harvest.

With advance practices in breeding, the trees can now grow from seed to maturity in but one-third the time they took then. Where in 1954 the harvest cycle of a tree crop was often much longer than a normal human life expectancy, in 2004 as many as three complete crops are taken in that same period. Human life expectancy itself is much greater than it was half a century ago.

While the trees are still standing, many different things are done to them, according to our journal of the future. Special hormone treatments give them many wonderful qualities. A forester in the years beyond 2000 A.D. carries a hypodermic-type needle instead of an ax. Using different substances, and perhaps radioactive materils, he can treat trees to fit many desirable requirements: He can stain them so selected trees when cut into lumber will have been already stained to desired hues and shades while still standing.

Astounding as it may seem, he also, through such special treatment, seasons the tree while it is still standing out in the forest. This treatment also stabilizes the wood and virtually eliminates shrinkage, expansion and checking after the wood is made into lumber.

Because of universal use of fine forestry practices in this country, American forests of the year 2004 are greater than ever before in history. New survey methods and ways of measuring

USE of electron microscope to study viruses speeds forest insect control

FANTASTIC? W-E-L-L . . .

Don't be hasty in shrugg'ng off as fanciful pipe dreams Mr. Carr's accompanying predictions on the future of the forest industry. He is a highly stable and successful Sacramento, Calif., lumberman who is so well regarded that he is president-elect of the Forest Products Research Society.

In making these remarks at the recent annual meeting of the Sierra-Cascade Logging Conference at Redding, Calif., Mr. Carr drew upon actual developments that are in use today, added thinking that is currently in the partial development stage, and projected these ingredients into a logical conclusion.

His contributions to the advancement of the wood-using industries earned Mr. Carr a Wood Salute in the February, '54 issue of WOOD & WOOD PRODUCTS. He has been a tireless worker for both the FPRS and the Western Pine Association and is now serving a third term as promotion chairman for the latter group.

THESE waste chips from a Washington lumber operation are destined to be made into chemical cellulose at Rayonier plant. Full utilization is goal

forest volume, as well as the forestry practices, now show our forests containing nearly two trillion board feet. And so perfect has forest management become that not only has man been able to balance forest growth with forest withdrawal, but in many areas the scales tip to the production side more often than not.

The demand for lumber and wood products in 2004 exceeds all the dreams the early 20th century lumberman could ever muster. An annual consumption level of about 100 billion board feet is the average here in the 21st century, with the figure continually increasing. That is almost triple the demand and use of 1954. And the loggers of this advanced age have a steady, certain future ahead of them, since wood is the one really renewable natural resource in all the world.

In 1954, only nine of the 38 most important minerals used in American industry were of sufficient abundance to fill our needs from within the continental United States. The remaining 29 were purchased from abroad, and occasionally, where political differences arose, there was difficulty in obtaining some of those elements from the differing countries.

Let's turn to the logging section of this journal of the future . . . we call it logging now only by tradition, for any similarity between such operations in 1954 and 2004 is purely and practically coincidental. For instance, there is no longer falling of timber, much less the use of saws. The trees are pulled up by the roots from gigantic logger-type helicopters.

Intricate electronic mechanisms work and set hooks and chokes from the air. Television allows closeup views for detail work done remotely—the same work was done by hand less than 50 years before. The entire tree is lifted into the air and carried—roots, limbs, trunk and all—to the mill where it is deposited at the processing site. Thus all the tree residues are brought to one spot from which they may be all utilized in hundreds of different ways.

One of the most important features of this complete removal from the forest is the nearly perfect elimination of fire hazards and insect and disease breeding grounds. Remaining trees are allowed to develop and ripen in perfect, healthy surroundings.

By this "complete tree" method of logging, most of the more wasteful operations in the logging of the early and mid-twentieth century are eliminated. No bucking takes place in the forests, no limbing. Little or no damage is caused to the plants and trees surrounding the logged or "lifted" trees when they are harvested.

Organic materials usually absorbed by the forest floor and soil in old forests are replaced by the lumbermen now. Some of the substance from the whole tree is diverted at the mill to be used with other materials and chemicals for fertilizing the harvested areas. And through helicopter logging, areas often otherwise inaccessible are opened up to harvest—difficult areas on steep mountain sides, deep in canyons and in other rugged places. Thus loss to natural destruction because of inability to harvest such trees is eliminated.

Most loss of other wood materials within the trees is gone, too. Pine needles, for instance, were in demand back in 1954 for use in obtaining pine oils. But there was no economically feasible method of gathering needles in sufficient quantities for successful use. With *all* of the tree being brought to the mill, it is a simple operation to strip the needles and use them where needed.

Roots of the harvested trees, too, offer up vast quantities of naval stores —a resource left in the stump for hundreds of years. Many other uses unheard of in 1954 have been developed. Often, after many substances have been removed from the basic wood, the remaining chips are sent along to pulping machines and eventual use in paper, or for fiberboard and hardboard manufacture. Much wood that once would have gone to lower grade lumber now is used for chemical extract and eventually for paper or board.

We can see here, then, that a sawmill producing lumber isn't the big, central operation of a lumbering concern in the year 2004. It is just one of the many cogs on the big wheel of the manufacturing machinery that now turns out wood products in all forms. However, a look inside even the sawmill portion of a great wood factory of the future shows revolutionary changes in methods, machines and ideas during 50 years.

A modern plant of the 21st century operates something like this: The complete tree, having been deposited by helicopter in the storage area, is carried by remote control into the plant. First the pine needles are stripped off by special methods and sent off for use. Then the limbs are bumped and sent to naval store extraction and eventually the pulping or hardboard departments. The roots are cut off at the lowest part possible and sent along a path similar to the limbs.

The remainder of the tree—in its original length—is run through a debarker. The bark is saved for use in the fertilizing processes. Then, with

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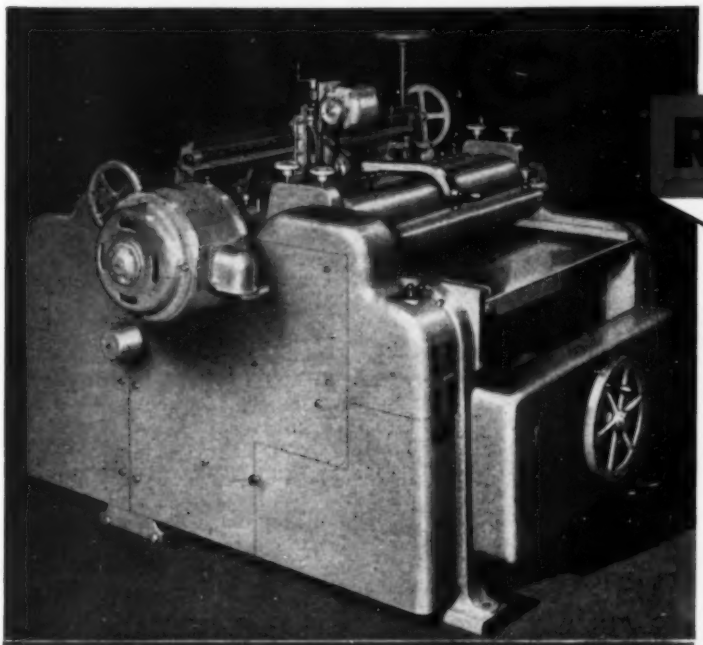
USED in genetics here, hypo needle may next be treating, staining tool

Radical REDUCTIONS *in* PLANING COSTS *are effected by*



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BUSS CABINET PLANERS

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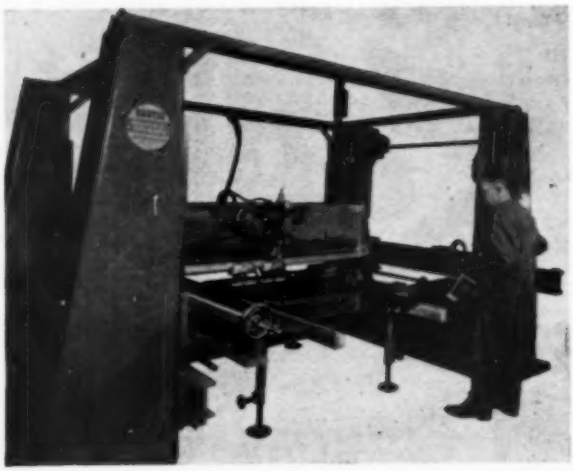
See us at the Woodworkers Industry Show—Grand Rapids—May 5, 6 and 7.

More New Finishing Ideas and Equipment

Automatic stroke rubbing machine—Combination stain and filler—Hot spraying unit—Infrared pre-heat oven are newly reported developments



HYDRAULIC automatic stroke rubbing machine can be used on table top or complete case

SUPPLEMENTING the timely round-up of recent developments in finishing materials, methods and equipment which appeared in the March issue (Page 28), WOOD & WOOD PRODUCTS this month calls attention to four additional developments which arrived too late for inclusion with the earlier presentation.

Interest in reducing the time of a finishing operation and in getting better finished products at reasonable cost appears to be healthily strong throughout the wood industry, if early response to the March issue presentation can be used as a yardstick. Greater attention to the finishing department is one means of bringing mass production techniques into the wood using industry. Perhaps readers may find one or more of the following ideas may apply to operations in their plant.

High speed rubbing with coated abrasives, rubbing compounds or wax is a feature of the Curtis Machine Corp.'s new hydraulic automatic stroke rubbing machine for the furniture industry. The machine which embodies the latest and most advanced engineering, has an automatic, adjustable beam travel for depth and an automatic, adjustable horizontal travel for length of rubbing stroke. It also has a vertical beam adjustment for height.

Automatic ejection of coolant or rubbing compound and air controlled holding arms for holding complete case or top are other features of the new 48-R4 model. The hydraulic power unit glides the rubbing pads at speeds up to 250 strokes per minute. Infinite stroke length and speed adjustments are all within reach of the operator, and all adjustments can be made while the machine is in high or low speed operation.

One large furniture manufacturer who has five of these machines reports superior finish at a production rate of 40 cases per hour, including loading the cases into the machine.

A single application of a combination stain and filler newly developed by Glidden Co. now eliminates the need for using separately a stain, a wash coat and scuff sanding, and a filler. Savings occur in eliminating much of the cost of these several operations.

The manufacturer claims the combination stain and filler pads in easily, cleans up fast and possesses excellent color and color stability. Further, it will not drift, streak or heave under a sealer.

A hot spray unit, capable of heating 30 fluid ounces per minute and having a capacity of 28 cubic feet of air per minute, is giving efficient performance at the Ridgefield Furniture Co., Ridgefield, N. J. The new model SPC-4 Therm-O-Spray unit features the circulation of hot air alongside the fluid hose to keep the material at a constant temperature even during interruptions while spraying, states the manufacturer, Special Equipment Corp.

The unit is compact, is of simple design and requires a minimum of maintenance since it has no moving parts. Hot spraying makes it possible to spray higher solids material and use less thinner. Its use reduces the number of spray coats and decreases the amount of rejects due to runs and

COMBINATION stain and filler is used to finish television cabinets

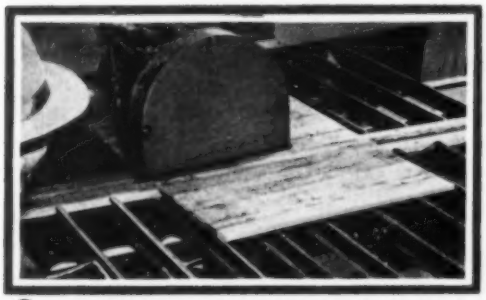
HOT SPRAY unit in use at Ridgefield, N. J., Furniture Co.

PRE-HEAT oven (rear) speeds table top gluing operation at Vinewood Co.

1. DRAWER FRONT ABOUT TO MEET THE PRESS. In laminating fancy veneers of cherry, mahogany and walnut to curved drawer fronts, URAC 185 is spread on a flat poplar wood core, the veneer is applied, and the unit is placed in a hydraulic press. Result—a permanently contoured single unit whose warp-resistant URAC 185 bond is actually stronger than the wood itself.

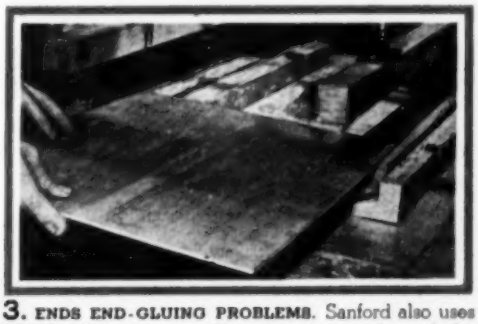
Permanent Bonds for "Permacraft"

How URAC® Resin 185 solved 3 "special" gluing problems for Sanford Furniture Company



2. AN "EDGE" IN EDGE-BONDING. Sanford makes drawer backs out of varied-width pieces of oak of uniform thickness, edge-glued into one flat sheet. Though the joints are no more than ½ inch thick, URAC 185 makes an exceptionally strong, moisture-proof bond . . . forms large, sturdy, workable boards out of small ones. Thus, scrap wood can be salvaged and put to good use.

"PERMACRAFT" CHERRY PROVINCIAL, one of the high-grade lines of bedroom furniture produced by Sanford Furniture Company, Sanford, N. C.



3. ENDS END-GLUING PROBLEMS. Sanford also uses URAC 185 for joining rabbeted posts to end panels for dressers, chests and night tables. After brushing URAC 185 on post rabbets, the posts and end panel are inserted in an electronically-heated, specially designed press . . . emerge permanently bonded.

GOT A "SPECIAL" PROBLEM in assembly gluing and laminating? The answer you need may be as simple as . . . URAC 185. Write today for complete information.

AMERICAN Cyanamid COMPANY

PLASTICS AND RESINS DIVISION

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In Canada: North American Cyanamid Limited
Royal Bank Building, Toronto, Ontario
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sags. It is also claimed that better flow out of material reduces the amount of rubbing and polishing and gives the finish more depth and a richer appearance.

Infrared "pyrex" tube heaters and oven panels, used for drying or baking finishes and for pre-heating gluing edges to speed production on gluing and clamping operations, are said by their makers, Corona Mfg. Co., Glendale, Calif., to provide smooth even heat distribution and reduce fire hazards and "hot spots."

Vinewood Products Co., Los Angeles manufacturers of wood tables and chairs, has installed the heaters in a galvanized sheet steel box to speed up production on gluing edges on table tops and leafs. The metal box is 5 ft. high by 3 ft. deep and 4 ft. wide and open at the front so that heated tops are easily removed by the operator doing the gluing and clamping. Two standard 4 ft. x 5¼ in. heaters rated at 750 watts each are arranged on each wall in a vertical position. Total oven power requirement is 4.5 k.w.

Prior to installing the pre-heat oven, the edges were glued and clamped on the table top and required 20 to 30 minutes drying time before the clamps could be removed. Now, the glue is dry as soon the the edges are glued and clamped into place. Weather conditions no longer slow operations, production is maintained at a faster flow, and less floor space and handling is necessary. Installation and maintenance costs are low.

LEFT — Steel strapping machine crating veneer at C. B. Stem plant. RIGHT — Tie plugs being strapped into bundles of 500 at Baker Wood Preserving Co.

One-Man Steel Strapping Unit Solves Veneer Shipping Problems

THE PROBLEM of securely crating and banding veneer shipments for safe arrival to the customer is no longer a troublesome one at Chester B. Stem, Inc. The task is now being performed by one man at the New Albany, Ind., veneer and lumber manufacturing plant more efficiently than it was previously done by two men. Steel strapping is the answer.

A roller conveyor delivers the veneer crates to the steel strapping machine. Here the operator uses a foot pedal to trip a home-made press operated by an air cylinder, compressing the bundle of veneer into a neat package. The press was devised by millwrights at the Stem plant to fit their specific needs.

Then a press of the button and the steel strapping machine performs three rapid order functions—tightens the ¾ in. steel banding supplied off a nearby reel, spot-welds and cuts it. Spot welding has been found to be more satisfactory than fastening with clips, and the galvanized banding insures against rusting, no matter how long the veneer remains crated before it is used.

Previously one man was needed for banding by hand, while another man did the measuring and prepared the bundle for banding. Now the man who does the measuring does the complete banding operation.

Steel strapping has also answered a specific problem for the Baker Wood Preserving Co., McArthur, Ohio. Here wooden railroad tie plugs—small, irregularly shaped objects used as wedges to hold ties securely in place—are strapped into bundles of 500, using ⅜ in. galvanized steel strapping. The method permits the strapping of 100 bundles an hour, or as many as 500,000 tie plugs per day.

Other small products such as shims, loading chocks and surveyor stakes are also strapped at this plant for convenient handling.

Railroad Furniture Clinic

The second annual furniture clinic was recently concluded at some 30 principal stations on Southern Pacific Company (Pacific Lines). This educational program was presented to over 1,500 S. P. employees, and employees from other railroads at common point terminals.

The furniture packing and loading supervisor of the Trans-Continental Freight Bureau presented a series of slides and stressed the importance of rendering full and complete reports on damaged furniture, including the package number, type of inner packing used and apparent cause of damage. Observance of arrows and other package marks was emphasized.

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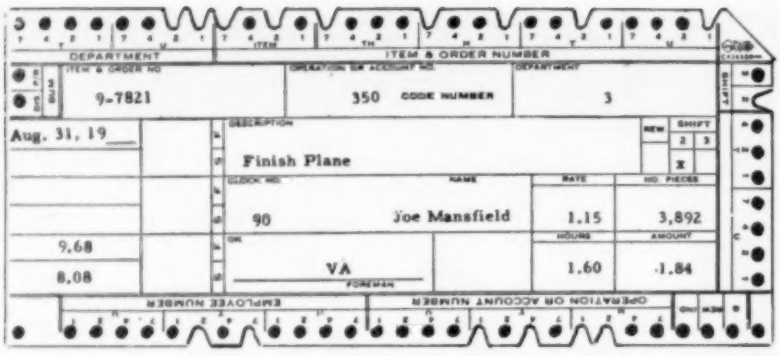
Simonds Divisions: Simonds Steel Mill, Lockport, N. Y., Simonds Abrasive Co., Phila., Pa. and Arvida, Que., Canada

Methods of Setting Up a Cost System

Comparing standard vs. actual costs — Incentive plans, job order and cost methods described—Using a code system

By VINCENT E. NOLTEMEYER
Secretary-Treasurer
Gamble Bros. Inc.



KEY-SORT labor card, slotted at edges to code payroll and cost information

COSTS ARE FIGURED to establish selling prices, or to determine the amount of profit in the sale of an article, the selling price of which is set by competition or consumer demand. They are also figured for the purpose of providing control of operations and to provide inventory valuations in determining profits.

While costs furnish a guide as to selling prices, it is not always possible to raise or lower the selling price as the cost rises or falls. Competition and specific customer relations often influence the selling price, regardless of the manufacturer's costs. When the cost is studied in relation to the selling price, it is essential that all elements of costs be considered. The selling price must cover all manufacturing costs, including selling and administrative costs, plus something additional for profit.

There are many occasions when the actual cost in the past is not indicative of the costs that will be incurred in the immediate future. The price of materials may have changed. Through the curtailment of expense, or expansion, manufacturing expense may have been reduced; the labor cost may have been affected through changes and methods of wage scale.

All such changes must be taken into consideration when comparing the cost of an article with the selling price, to decide whether the selling should be changed or the manufacture of the article continued or discontinued. In other words, when considering the selling price to be asked for an article, the question in regard to cost is NOT what did it cost to make the article? But—

What will it cost to make the article and to sell it and to produce a sufficient margin above those costs to pay a proportionate amount of the cost of carrying on the business other than direct manufacturing costs and selling expenses?

Of course, the corporation records showing what the article did cost in the past furnishes valuable information for estimating what it will cost in the future. Those records will indicate quantity of material to be used, subject to consideration of minimizing waste or other factors. Those records will reveal cost of material in the past, but, of course, we are primarily concerned about the current cost and that of the immediate future.

In the wood conversion industry, the work of estimating is very important. In many cases, estimating is voluminous and frequently technical. In fact, an estimating department has been organized in many companies, so that trained personnel may detail costs, based on sound studies of labor and material. The estimate should show what the costs and expenses should be under conditions of reasonably diligent management. In other words, a *standard* which has been set for performance.

Standard costs are cost values predetermined by scientific fact finding which utilize both past experience and controlled experiment. They reflect the cost level expected, on the average, for the period in which they apply. These values must be developed through the use of time studies, product specifications and production needs, so that they represent performance under normal requirements. The process of developing standard costs must be based on:

(a) A careful selection of a grade and species of lumber (material) to obtain the proper utilization.

(b) An engineering study of equipment and facilities to improve present manufacturing methods.

(c) Time studies of factory operations.

A standard cost system thus devel-

NOLTEMEYER'S MANUAL HELPS BUILD PROFITS

Since the continuing objective of any modern wood conversion operation is to hold a tight rein on costs, Mr. Noltemeyer discusses methods and procedures toward that goal in the accompanying article, third in a short series he is writing exclusively for WOOD & WOOD PRODUCTS.

His next article will complete the description of material leading into job order costs. The first article in the series dealt with a discussion of guarding profits with lumber inventory controls, and the second outlined methods of valuing incoming lumber.

Mr. Noltemeyer is author of the manual, "Accounting and Cost Controls in the Hardwood Conversion Industry," a practical, well-illustrated handbook clearly defining methods that help build profits. Recognized as a highly competent authority on his subject, he has originated many systems and devices for greater efficiency in wood industry accounting. He has served as cost accounting committee chairman of the Hardwood Dimension Manufacturers Association and as president of Louisville Chapter, National Association of Cost Accountants.

Hundreds of copies of his manual, as mentioned above, are already in use throughout the industry. It belongs on the desk of every executive who is responsible for keeping a wood conversion business at profitable levels.

The book sells for $6 (postage prepaid) and may be obtained either through WOOD & WOOD PRODUCTS or by direct order to Mr. Noltemeyer at 4601 Almond Ave., Louisville 9, Ky.

they like the MATTISON MOULDER at Tomlinson . . . . .

Since 1900 Furniture by Tomlinson has been a quality name from coast to coast. The finest equipment for all phases of production are a *must* . . . naturally they like the Mattison Moulder at Tomlinson.

The Tomlinson operator likes it because it is as easy to set-up, feeds so easy and produces so few rejects . . .

The Tomlinson foreman likes it because he gets production when he wants it and as he wants it—*good* . . .

The Tomlinson superintendent likes it because it produces high quality quickly and easily and his production schedules are consistently met . . .

The Tomlinson cost department likes it because it produces high quality work at low cost . . .

The Tomlinson management likes it because work comes through uniformly accurate, and proper fitting —a necessity in producing high quality bedroom, living room and dining room furniture by Tomlinson.

Yes— makers of Furniture by Tomlinson like the Mattison Moulder — and *you* will like it, too!

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oped allows a comparison to be made between actual costs and standard costs. The difference between the two is a cost variance. The standard costs are those which have been predetermined with accuracy and which are used in the determination of the selling price as will be outlined later on.

The difference between actual and standard cost may be composed of different variances. Some causes of variances may be:

1. Material variances arising from:
   (a) Increased or decreased cost price of lumber and other raw materials.
   (b) Higher or lower yield (utilization) from the lumber and other materials needed to produce the finished order.
2. Labor variances between actual and standard may arise from:
   (a) An operator with a different base rate than the rate specified in the standard is used to perform the operation.
   (b) The actual direct labor hours are more or less than the number of labor hours which should have been used for the amount of product turned out.

   The costs which are used in the determination of the selling price must be regularly checked against the actual cost, because if continued losses are shown, the actual costs will provide information that will enable management to decide whether the manufacture of the particular article should be continued or discontinued.
3. Overhead variances result from over or under absorption of factory burden and may be caused by:
   (a) Budget differences, since expense rate is usually established by calculating the total expense over the accounting period and may not be correctly determined.
   (b) Capacity factors which indicate that part of the total price variation which arises from a difference between the planned number of operating hours and the actual number of hours used.

There are basic reasons for a company to use standard costs in conjunction with the job order cost system. The use of standard cost does not necessarily mean that standards established are used as an incentive for compensation to employees. Employees may be paid on regular straight time, hourly rates, or weekly wage rates, without regard to the standard system established.

The standards which we speak of are those which are used as a gauge in the effective control and analysis of cost data. They serve as a measuring device which calls attention to cost variations.

An acceptable incentive plan must be tailored to suit the individual plant. A satisfactory plan for one business may not be fit for another. Fundamentally, there are two methods of paying wages, commonly called "day work" and "piece work."

Day work is based upon the number of hours the employee spends in working. It does not take into account what he accomplishes during those hours, but depends upon supervision to see that a satisfactory amount of work is done by each employee.

Piece work is based on the number of pieces of work the employee produces. Under this plan the employer pays for what is actually done. Theoretically, the piece-work method establishes a standard from which there is no variance. If all the work is done

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No saw on the market at a price anywhere near comparable has as many outstanding built-in advantages of construction and performance as the Delta Tilting Arbor Circular Saw.

*** It does every basic cutting operation, quickly and with unsurpassed accuracy.**

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*** with Delta's broad selection of accessories, your saw is a tool of countless uses—cuts dados, tenons, mouldings; does numerous other operations.**

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1. TILTING ARBOR—best design for accuracy; work always level; table height does not change

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3. PERFECTED V-BELT DRIVE—allows maximum thickness of cut capacity; motor tilts with arbor

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8. PERFECT TABLE SURFACE—ground for precision and smoothness; cast iron table scientifically ribbed to maintain original accuracy

9. SAFE, EASY CONTROLS—all controls and adjustments readily accessible, easy to operate

10. TREMENDOUS RIPPING CAPACITY—rip fence guide rails extend beyond table; provision made for adding auxiliary table

11. MASSIVE MITER GAGE—has adjustable stops for mitering and straight cut-off, long guide bar for added accuracy

12. NARROW BLADE SLOT IN TABLE INSERT—full support of work; blade remains centered at any height or tilt angle

THESE SPECIFICATIONS HELP YOU CHOOSE THE SAW YOU NEED

	8"	10"	12"
Diameter-Arbor	⅝"	⅝"	1⅛"
Diameter-Blade	8"	10"	12"
Maximum Depth of Cut	2¼"	3⅛"	4⅛"
Maximum Depth of Cut at 45°	1⁹⁄₁₆"	2⅛"	2⅝"
Maximum Rip—Right of Blade	24"	25"	30"
Table Size (With Extensions)	15"x22" 22"x25"	20"x27" 27"x36"	30"x48" 36"x48"
Distance—Front of Table (Blade extending 1" above table)	12⅝"	13⅜"	19"
Table Height	34½"	34"	34"
Speed	3850 rpm	3200 rpm	3750 rpm

on a standard piece work basis, then the standard cost for productive labor should be the actual cost. Practically, this is not true, for it is necessary to make certain allowances, such as lost time waiting on materials, etc. However, the greatest variance, due to varying volume produced by each workman, is eliminated.

The straight piece-work plan needs little explanation. A certain standard price is set for a piece of work, such as boring a hole in a piece of wood or metal. The workman is paid for the number of pieces in which he drills the holes. If the rate is 1c each and he handles 1,000 pieces in a day, his pay will be $10. If he wishes to increase his pay, it is necessary for him to work faster—handle more pieces, and his pay will automatically increase.

There are other wage-payment plans, among which are: (1) Halsey premium plan; (2) Rowan premium plan; (3) Taylor differential piecework; (4) Gantt bonus plan; (5) Emerson efficiency plan; (6) Bedeaux point system; (7) Earned-hour plan; (8) Standard-time plan.

Under the standard-time plan, standard time is set for a given operation which can be met by a workman working *normally* under average conditions. When the time taken to perform the operation is equal to or less than the time allowed, or standard time, the workman is paid for the *time allowed* at his day work rate. When the time taken is greater than the *time allowed*, the workman is paid for the *time taken* at his day work rate. Thus the workman is guaranteed his fixed day rate, or the amount he would have earned had he been working on a non-incentive basis.

If a workman has failed to meet standard time, a special report may be forwarded to the time study department. The workman may then be interviewed to determine the reason for less than standard performance, correction then being made in all cases where the failure was due to uncontrollable causes.

The plan readily develops all pertinent information as to product cost, plant efficiency, and individual employee performance.

Once this plan has been properly established, the hourly rates of pay may be changed from one basis to another without involving anything more than a recompilation of figures. The plan establishes a standard from which there is no variance. In other words, if all the work performed is done at standard, then the standard cost for productive labor should be the same as the actual cost. Wages paid would then be the standard labor cost for the work performed. In practice, however, this is not quite true, as workmen may lose time caused by peculiarity in the raw material requiring more time for processing.

Standards of production and standards of wage payment should be based upon scientific engineering investigation.

Of particular significance is the methods-time measurement (MTM) for establishing sound standards. Methods-time-measurement is a procedure which analyzes any manual operation or method into the basic motions required to perform it and assigns to each motion a predetermined time standard which is determined by the nature of the motion and the conditions under which it is made.

Under the job order method, costs are accumulated separately for each order manufactured. The order may cover production of a specific article for a specific customer. Then too, it may cover a particular lot, such as a run of bookcases, dressers, chests, or other articles of furniture or wood products. All manufacturing costs incurred in the production of a given

Continued on Page 46

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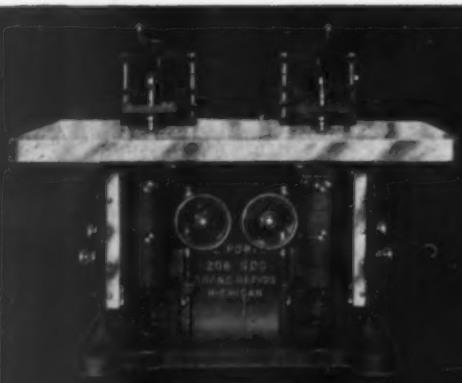


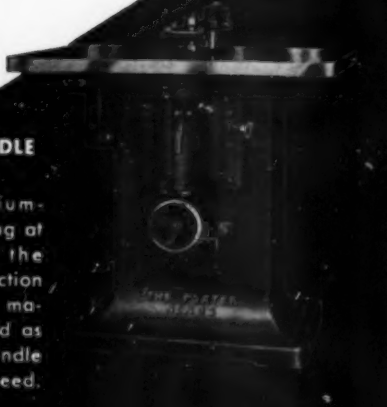
206 DOUBLE SPINDLE SHAPER
A heavy duty shaper with heat-treated steel spindles and high-speed ball bearings. Spindle tops are self-centering and detachable. Mirror-smooth table. 8500 RPM's

405 SURFACER
Handles 11⅛" lengths without butting end to end. Has a matched V-belt drive for rotating the cutterhead at 6,000 RPM to assure clean, smooth, perfect work.

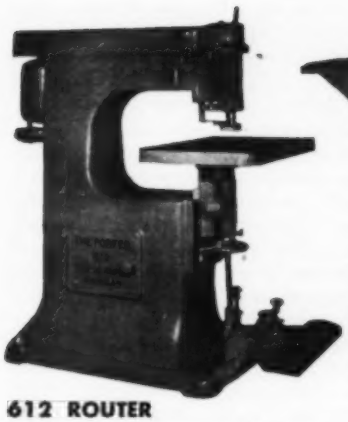
PORTER machinery is DIVIDEND DESIGNED

155 SERPENTINE SHAPER
Performs all types of curved or serpentine shaping. Tables run on ground and shaped dovetails. Two spindles with 12,000 — 18,000 RPM.

700 SURFACEMASTER FACING PLANER
All-steel construction, rugged as a battleship. Designed to accommodate conveyors. Infeed table and conveyor raise and lower together. Variable speed, 40 to 100 feet per minute. 24" and 36" widths. 3600 RPM with motor on arbor, 4800 RPM with belted motor drive.



105 SINGLE SPINDLE SHAPER
A high-speed, medium-sized shaper operating at 12,000 RPM's. Has the same rugged construction as the larger Porter machines. Also furnished as No. 112 double spindle shaper with same speed.



612 ROUTER
A heavy duty single spindle router. 2 speeds — 20,000 RPM and 12,000 RPM. Vertical table travel by foot pedal. Furnished also with sliding head. Other sizes also available.

300 JOINTER
Rigidly ribbed tables with aggregate length of 8'. Dovetailed steel lips, intermediate sliding table. 12", 16", 24", 30", 36" widths.

STRAIGHT LINE AND COMPOUND ANGULAR CUT-OFF SAWS
Keep perfect alignment, require less maintenance. Operate on hardened steel balls running in hardened and ground alloy steel raceways.

. . . to give you more production for every dollar you spend

Buying Porter **DIVIDEND DESIGNED** Machinery is like buying custom-built furniture at a popular price. You get so much more for your money. Your cost per job is less because Porter Machines are faster, take heavier cuts and require less adjusting. They have an extra margin of speed, capacity and strength not found in ordinary machines.
Porter's Master Mechanics have concentrated on building fewer machines better. Each machine is built by specialists with years of experience in building one particular type of equipment. They take pride in their work and produce masterpieces of mechanical skill, designed to give you a profit dividend.

DIVIDEND DESIGN means all this and more, too. It typifies the engineering skill for which Porter has become famous. It describes the Porter "FEEL" for planning that enables 3 men to do the work of 8, or 5 men to do the work of 15.

If you need a Router, Saw, Shaper, Planer, Carver, Jointer, Surfacer or Serpentine Shaper it will pay you to investigate Porter, the machinery designed to give you greater dividends.

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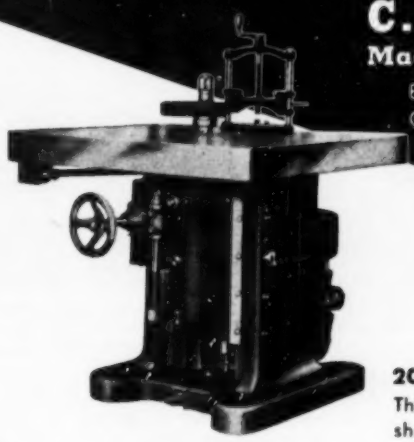
(Hydraulic or Air operated)
Automatically operated straight line cut-off saw saves manhours. Cuts from 0 to 45 strokes a minute.



203 SINGLE SPINDLE SHAPER
This heavy duty single spindle shaper handles a full range of work from light to heavy at 8500 RPM's.

C. O. Porter
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Grand Rapids, Mich.

DIMENSIONAL CONTROL

Continued from Page 24

mill is not well constructed, maintained, or operated it may be out of control and the variation in thickness of boards produced will far exceed that characteristic of the product of a sawmill operating in control. Fig. 3 illustrates a control chart for a sawmill which exhibits lack of control.

The problem faced by the sawmill operator is that of setting his sawmill to cut the smallest average board thickness that will not yield an excessive number of boards below the minimum thickness acceptable to his customers. If the sawmill is operating in control, it is possible to predict with a high degree of precision what that average board thickness ought to be.

The dispersion of board thicknesses about the nominal thickness for sawmills operating in control can be expressed in terms of the standard deviation of the appropriate normal distribution. This is a measure of the machine capability or the basic accuracy of the sawmill as a piece of manufacturing equipment.

Three sawmills recently investigated showed standard deviations of 0.05, 0.06, and 0.07 in. Differences in the standard deviations from controlled sawmill operations reflect differences in quality of the original sawmill construction, age, and state of maintenance. If it is possible to accept as a reasonable basis for operation a condition in which boards thinner than 1.00 in. will not be produced more frequently than once in every 100 boards, then the average thickness which should be set for each of the above three sawmills would be as shown in Table 1.

TABLE 1

Sawmill	Standard deviation of thickness	Average thickness required
A	0.05"	1.11"
B	0.06"	1.14"
C	0.07"	1.17"

It might appear that one thin board out of every 100 boards would be an excessively liberal allowance. However, examination of 100 successive shipments of lumber received at a concentration yard from 24 different suppliers showed that the average percentage of thin boards per shipment was 4.5%, that only 5% of the shipments contained no thin boards and that 80% of the shipments contained more than 1% of thin boards.

Mill A will give better lumber yields than will Mill C since on the average the 4/4 boards produced by Mill A will contain 5.1% less lumber than will be the 4/4 boards produced by Mill C.

It is sometimes argued that this extra lumber will not actually be captured unless the log is of sufficient size to permit it to be accumulated into an additional board. C. J. Telford indicates in his "Small Sawmill Operators Manual" that this is illogical and states that, "It can be demonstrated diagrammatically that an increase of approximately 2½% in softwood footage results from each 1/32 in. decrease in saw kerf, and a comparable saving results from improved precision in sizing."

It is apparent then that even where sawmills are operated in a state of statistical control there is a real advantage from a yield standpoint to operating a mill which has a high degree of basic accuracy. Good machine capability in a small sawmill results from use of good materials in its manufacture, careful machining and fitting of individual parts, and facilities for accurate adjustment in use.

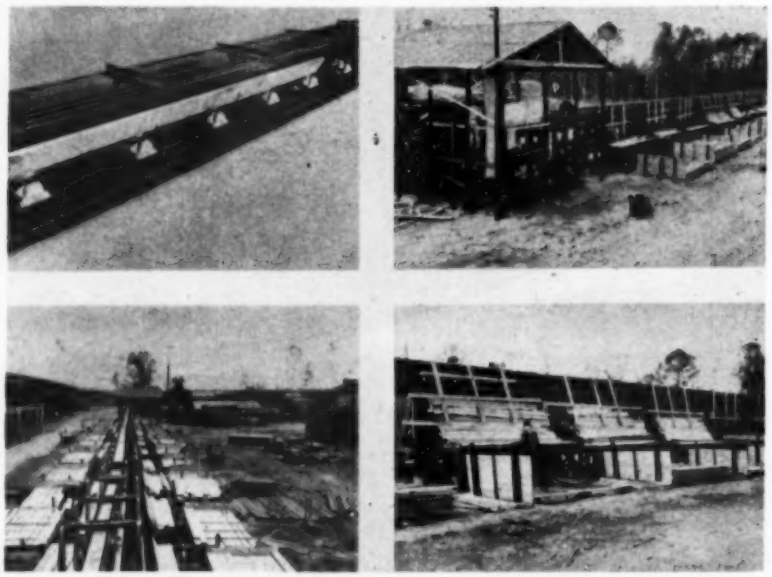
It is also essential that the sawmill be properly set up, maintained, and

New Sorter Spurs Lumber Output

A lumber sorter that mechanically sorts boards according to widths, length and grade has been installed at the Balfour Lumber Co., Thomasville, Ga. An edge-type sorter, the new machine not only speeds production but accomplishes manpower savings up to about 120 hours for a mill sorting 60,000 bd. ft. a day.

Lumber is carried by roller chain driven rolls between angled parallel steel plates which have periodic openings of progressively larger sizes. When the upright piece of lumber reaches an opening of the proper width it falls out of the sorter by force of gravity. Larger widths of lumber are held in the sorter by the bar forming the top of the opening. They are carried along the chain-driven rollers to increasingly larger openings.

No springs, shear plates or other mechanisms are required to knock or shear the lumber from the sorter, developed by the Wheland Co., Chattanooga, Tenn. It is designed to allow for boards up to ¾ in. or more over width, and slightly warped or uneven boards will not jam or affect its operation. The separated lumber slides onto platforms of convenient working height, from which it can be easily and quickly stacked for transportation to the drying yard or kiln.



VIEWS OF LUMBER SORTER—Top left: Closeup of rollers; Top right: Balfour mill installation; Lower left: Looking down 299-ft. sorter toward loading section; Lower right: Boards fall onto racks ready to stack.

Other installations have also recently been made by H. M. Walker Lumber Co., Battleboro, N. C., Dennison-Adams Lumber Co., Macon, Ga., and Hardin Lumber Co., Forsythe, Ga.

operated by the user. A sawmill which has a high basic accuracy when new will show a reduction in this accuracy if worn parts are not replaced.

When a sawmill is operating out of control it is necessary for the sawyer to set his mill to cut an average board much thicker than that cut by the same mill operated in control. This is necessitated to insure that the boards which are out of control on the low side are not thinner than the minimum specification requirement.

Furthermore, when a sawmill is out of control there is no basis for predicting what the target average thickness should be or what percentage of boards will be outside the specification limit for any given target average thickness. Figs. 2 and 3 represent control charts for two sawmills which have very nearly the same machine capabilities. Therefore, it would be presumed that the target average thickness would be about the same for the two mills if they were attempting to produce lumber to comply with the same specification of minimum thickness.

In actual fact, the mill which was operating badly out of control had an average board thickness which was 0.11 in. thicker than that of the mill which was operating in control. The 4/4 boards from the mill operating in control contained on the average 8.7% less lumber than did the boards from the mill operating out of control. Over a period of several weeks the actual difference in yield between these two mills was somewhat less than this value because at the start of the study both mills were out of control. The sawmill represented by Fig. 2 was brought into control by the operator, thus permitting a change to a smaller target thickness.

It is sometimes said that it is unrealistic to be concerned with what appears to be relatively small differences in average board thickness. With the small profit margin characteristic of most small sawmill operations, differences in yield of the order of magnitude of 5 to 9% easily may represent the difference between a profitable and a submarginal operation. This is particularly true since the evidence currently available suggests that it is no more costly to operate a sawmill with good machine capability in a state of control than it does to operate a poor mill out of control.

If a sawmill operator is to gain the maximum yield through improving control of dimension the following two steps are required:

1. Bring the lumber manufacturing process into a state of statistical control.

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2. Improve the basic accuracy or capability of the sawmill.

Bringing the process into control means creating a condition in which the variation among boards represents a stable system of chance causes. The most frequent causes of lack of control have been found to be poor mill setup, inadequate power, improper saw lead, poor saw maintenance, improper carriage alignment, careless setting, improper calculation of cut, and inadequate dogging.

Correction of these defects usually can be accomplished by a tightening up of the operating organization. Close and intelligent supervision of the enterprise during mill setup and operation can result in correction of most of the assignable causes for lack of control.

Improving the basic accuracy or capability of the sawmill usually involves a more fundamental change in the equipment. It may mean the replacement of the sawmill with a new one. At the least it is likely to mean replacement of worn, damaged, or misfit parts.

STREAMLINED PRODUCTION

Continued from Page 21

makers, case clamping, installing locking devices, desk tops, hanging doors, and fitting drawers, hand sanding and final cabinet inspection. The desks are then ready for finishing operations.

Helping to serve as a check on the productivity and efficiency of the new machinery and newly laid-out plant is a "railroad ticket" type of cutting order which has been in force since 1940. The system is used in figuring not only cost accounting and cost estimates, but payroll and incentive plan payments as well.

First step is making up a bill of specifications as soon as a new design is approved. Then a rate sheet is made up for each part of the desk, all necessary operations being listed in sequence. Unit rates for each operation are arrived at through time study or charts and graphs.

Under the system, a unit equals one minute, and it is possible for a man to earn 80 or more units each 60 minutes. Sixty units would be a "break even" figure, anything in excess being entered into the incentive factor. These units are converted into dollars by using the man's day rate compared to 60 minutes.

The "railroad ticket" itself contains four sections to accommodate any number of operations. On each side of the ticket are perforated coupons filled out with correct quantity, rate and units involved for each operation. These coupons are turned in by the individual workmen who do the jobs.

A carbon copy of the entire ticket serves as a management check and routing guide. A "before and after" comparison of data on these tickets, coupled with notably improved and standardized quality, gives ample proof of the merits of Imperial Desk's modernization program.

150 GLUING Q's & A's

Because of a lively and continued reader interest in T. D. Perry's series of 14 articles (concluded in the December issue) covering a wide range of questions and answers about gluing, WOOD & WOOD PRODUCTS is reprinting them all in convenient handbook form.

The 5½ x 8½ in. book, 100 pages in length, well illustrated and fully indexed, contains 150 questions and answers. It should be an invaluable aid and ready reference manual for top management, foremen and employees responsible for gluing operations in any and all types of lumber, plywood and woodworking plants.

Write now and reserve the number of copies you will need for the personnel in your plant. Do it now and avoid disappointment later. Price per copy, $1.50 postpaid. Discounts on 5 or more copies.

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FPRS Technical Sessions, Tours Set for Grand Rapids May 5-7

Topics are: Quality Control — Machining — Drying — Finishing—Glues & Gluing—Packaging—and Composition Board

REGISTRANTS at the 8th annual national meeting of the Forest Products Research Society May 5-7 in Grand Rapids, Mich., can expect far greater demands on their time than attending the eight well planned technical sessions and inspecting machinery and equipment on display under the same Civic Auditorium roof in the concurrent Woodworkers' Industry Show. Numerous FPRS business and social functions, plus tours of five Grand Rapids plants, will also compete for attention.

The three-day meeting is expected to draw an attendance of 700 to 1,000 members and guests from all segments of the forest products industry throughout the United States and Canada.

Plant tours have been scheduled for morning and afternoon of opening day, May 5. Registrants may choose one or several of the following: two producers of quality furniture, John Widdicomb Co. (see page 22 in this issue) and the Mueller Co.; a producer of executive office furniture, Stow-Davis Furniture Co.; a specialist in school and other seating, American Seating Co.; and a producer of finishing materials, Grand Rapids Varnish Corp.

Principal speaker at the official luncheon will be J. P. Weyerhaeuser, Jr., president of Weyerhaeuser Timber Co., Tacoma, Wash., one of the leaders in the development of sound continuous-yield forest management practices and in promoting the fullest possible utilization of our forest resources.

One of the highlights of the social side will be the Paul Bunyan Hour, underwritten by the companies who supply raw materials and machinery to the wood-using industry. This will be held the evening of May 6, immediately preceding the official FPRS party and floor show.

The slate of FPRS candidates for national offices, to be voted on by mail ballot and elected at the annual business meeting, has been announced by the national and regional FPRS nominating committees.

In the office of FPRS president for 1954-55, Lester J. Carr, L. J. Carr Lumber Co., Sacramento, Calif. will automatically succeed Robert D. Pauley, Weyerhaeuser Timber Co., Tacoma, who will remain on the executive board as past-president. Mr. Carr is currently FPRS president-elect.

The following men will be on the ballots and voted upon for:

President-Elect—Moss B. Christian, Chicago Mill & Lumber Co., Tallulah, La. Mr. Christian is currently FPRS vice-president.

Vice-President – Ralph H. Bescher, Koppers Co., Inc., Pittsburgh, Pa. Mr. Bescher is a past North-Central Regional board member.

Northwest Regional Board Member –John D. Ritchie, Douglas Fir Plywood Association, Tacoma, to succeed Fred A. Armbruster, Dow Chemical Co., Seattle, for a 3 year term.

Northwest Regional Board Member –Frank T. Parrish, Heywood-Wakefield Co., Gardner, Mass. has been nominated to succeed W. Burdette Wilkins, consultant, Ridgewood, N. J. for a 3-year term. Mr. Parrish is currently chairman of the Northeast Section of the FPRS.

Other regional board members continuing in office in 1955 are: Southeast, Dr. E. S. Harrar, Duke University, Durham, N. C.; North-Central, Dr. J. A. Hall, Forest Products Laboratory; South-Central, W. J. Eason, Nickey Brothers, Inc., Memphis; and Southwest, R. E. Shreck, Union Lumber Co., San Francisco.

Candidates for the 1955 national nominating committee of which 4 are to be elected are: Arthur B. Anderson, University of California, Berkeley; A. R. Colman, Bell Telephone Co. of Canada, Montreal; Robert B. Fellows, Reichhold Chemicals, Inc., Jacksonville, Fla.; Ira Hatfield, Monsanto Chemical Co., St. Louis; George G. Marra, Washington State Institute of Technology, Pullman; Herbert B. McKean, Timber Engineering Co., Washington, D. C.; George W. Stanley, Jr., Solar Sturges Div. of Pressed Steel Car Co., Chicago; and Frederick F. Wangaard, Yale University, New Haven, Conn.

The official technical program, under the chairmanship of L. J. Carr, president-elect, includes 13 open subject matter committee meetings in addition to the following technical sessions:

Session I — Packaging

Chairman: Earl R. Stivers, Package Research Lab., Rockaway, N. J.

Recurrent Types of Damage in Furniture Shipments—R. E. L. Harmon, Association of American Railroads.

Requirements for Good Furniture Packaging—J. L. Ware, American Excelsior Corp.

Cushioning Furniture to Prevent Damage—E. F. Landt and K. Q. Kellicutt, U. S. Forest Products Lab.

Testing Furniture Packs to Assure Good Delivery—W. J. Balster, Don L. Quinn Co.

Handling Small Parts in Pallet Boxes (Inter and Intra Plant Shipping)—A. L. Irwin, General Box Co.

Preservation and Packing Automotive Vehicles and Components for Export Shipments—A. D. Peister, General Motors Overseas Operations.

Preservation and Packing Transportation Equipment for the Armed Forces—James Sargeant, Containers Laboratories.

Session II — Wood Composition Board

Chairman: G. G. Marra, Washington State Institute of Technology, Pullman, Wash.

Use of Composition Board in Home and School Furniture—David McCalla, Fiberesin Plastics Co.

Manufacture of Decorative and General Purpose Medium Density Pressed Wood Boards by a Dry Process—A. L. Mottet, Long-Bell Lumber Co.

Effect of Particle Size and Shape on the Strength and Dimensional Change Properties of Resin Bonded Wood Particle Panels—H. D. Turner, Olin Industries.

Extruded Composition Board—John M. Crafton, Chipcraft Co.

R. D. Pauley

L. J. Carr

M. B. Christian

R. H. Bescher

F. T. Parrish

J. D. Ritchie

Molded Composition Products–Fred H. Williams, Monsanto Chemical Co.

Session III — Wood Machining

Chairman: L. A. Patronsky, Wabash Screen Door Co., Minneapolis.

Cooperative Research Program on the Machining of Wood with Moulders–E. M. Davis, U. S. Forest Products Lab., in cooperation with Harold Nelson, Pres., Ekstrom-Carlson Co.

Basic Research on Wood Machining with Rotating Knives–Robert Hoyle, Jr., New York State College of Forestry.

Research in Machining of Wood with Coated Abrasives–Norman Franz and Edward Hinken, University of Michigan.

Developmental Work on Planers–J. C. Petter, Jr., Buss Machine Works.

Session IV — Wood Drying

Chairman: Raymond C. Rietz, U. S. Forest Products Lab., Madison, Wis.

Effects of Rays on the Shrinkage of Wood–C. Morschauser, University of Michigan.

Steam Consumption in the Kiln Drying of Western Softwoods – Virgil Davis, Booth-Kelly Lumber Co.

Improving the Thermal Efficiency of Dry Kilns, R. J. Hoyle, Jr., State University of New York.

Vapor Drying of Some Western Woods–Rhodes Cantrell, Oregon Forest Products Lab.

Modern Superheated-Steam Kiln – J. S. Mathewson, U. S. Forest Products Lab.

Alleviating Bow & Crook in Southern Yellow Pine Dimension with Chemicals –W. W. King, Texas Forest Service.

Effect of Time, Temperature, and Relative Humidity on the Relief of Case-hardening Stresses – J. W. Churchill, University of Michigan.

High Temperature Drying of Canadian Woods–J. L. Ladell, Ottawa Forest Products Lab.

Session V — Glues & Gluing

Chairman: Alan A. Marra, University of Michigan.

Melamine Formaldehyde Resin Application & Advantages in Plywood Manufacture–Stuart H. Rider and S. E. Kozdemba, Monsanto Chemical Co.

Designing with Glued Wood Constructions – R. B. Fuller, Fuller Research Foundation.

Production Gluing of High Strength Joints –F. W. Berry, Brunswick-Balke-Collender Co.

Advances in Polyvinyl Acetate Glues for Woodworking–P. H. McCormack, National Adhesives Co.

Evaluation of Glues & Glued Products–R. F. Blomquist, U. S. Forest Products Lab.

Gluing of Treated Wood–D. J. Hanchett, Koppers Co.

Application of Impreg for Die Models–R. M. Seborg, U. S. Forest Products Lab., and A. E. Vallier, Ford Motor Co.

Session VI — General

Chairman: L. J. Carr, L. J. Carr & Co., Sacramento, Calif.

Product Liability–E. S. Feldman, Furniture Mfrs. Assn. of So. Calif.

Canadian Standard Specifications and the National Building Code – William Thornber, British Columbia Lumber Mfrs. Assn.

Promotion and Research–Successful Marriage–P. H. W. Creden, Edward Hines Lumber Co.

Reducing the High Cost of Information by Statistics–Ben S. Bryant, University of Washington.

Electrical Developments in the Forest Products Machinery Industry–General Electric Co.

Effect of Dilute Solution of a Number of Chemicals Which May Be Present in Water Passed Over Cooling Towers–Roy M. Baechler.

Session VII — Wood Finishing

Chairman: B. E. Clatworthy, Radio Corp. of America, Indianapolis.

Natural Finishes for Exterior Woodwork –D. F. Laughnan, U. S. Forest Products Lab.

Testing of Finishing Materials for Woodwork–Donald Lubeck, Singer Mfg. Co.

Factors to be Considered in Force Drying Wood Finishes – K. R. Brown, The Sherwin-Williams Co.

Ovens for Forced Drying Wood Finishes –W. Herdlein, R. C. Mahon Co.

Evaluation of Improved Gymnasium Floor Finishes–Timber Engineering Co.

Session VIII — Quality Control

Chairman: Charles Latimer, Nickey Bros., Inc., Memphis, Tenn.

Translating Quality Control Facts Into Action–William Price, Singer Mfg. Co.

Applications of Some Statistical Quality Control Techniques in the Manufacture of Veneer and Plywood–Edward P. McMahon, Nickey Brothers, Inc.

Dimensions and Tolerances in the Machining of Wood Furniture Parts–James S. Bethel and R. J. Hader, North Carolina State College.

Survey of Grades in the Hardwood Plywood Industry–J. L. Butler, Hardwood Plywood Inst.

Keynote Paper–Brainerd Sooy, Gardner Board and Carton Co.

Woodworkers' Show Who's Who; Operating Machines a Feature

A COMPLETE dust collector system and special heavy wiring will be installed at the Grand Rapids Civic Auditorium to accommodate the machines which will be in operation at the huge Woodworkers' Industry Show May 5-7. Hiller & Stuart Co., Show managers, has announced that Kirk & Blum Mfg. Co. has agreed to install the collector system in the auditorium basement for the use of the nearly 50 machines under power. The system will be larger than in many furniture factories.

Because the space limitations of both pipe size and collector, only about 25% of the machines will be able to run at once. The machines hooked up will require more than 1200 h.p., necessitating complete rewiring of the auditorium to take such a load. This includes main lines and switches.

Firms contemplating use of this service on one or more machines are: Bell Machine Co., Curtis Machine Corp., Dependable Machine Co., G. M. Diehl Machine Works, Enterprise Co., J. A. Fay & Egan Co., Greenlee Bros. & Co., Hawker Mfg. Co., Mattison Machine Works, Mersen-Johnson Machine Co., J. M. Nash Co., Newman Machine Co., Oliver Machine Co., Onsrud Machine Works, Sheyboygan Machine Co., Baxter D. Whitney & Son., Inc., and Yates-American Machine Co.

Most participating firms will have several other machines under power, but not cutting. All told there will be more than 150 machines in the show.

The displays, which include glues, finishes, kilns, material handling, hardboards, cutters, meters and practically anything a woodworker uses, will take up an area of 56,000 sq. ft. on two floors.

As a service to readers who plan to attend the Woodworkers' Industry Show, WOOD & WOOD PRODUCTS contacted all known exhibitors for booth numbers and lists of personnel scheduled to be in attendance. This gives visitors an opportunity when stopping at a manufacturer's exhibit to inquire for a specific individual. Information on booths and personnel announced up to press time follows:

Louis Allis Co., Ralph Owen, Bob Hitchcock, John Munson, Verne Schmidt Don Haynes.

Armstrong Machine Works, Booth Y 14: T. H. Rea, O. E. Ulrich.

Auto-Nailer Co., Booths Z 12-13: Joe T. Howell, Ray W. Jewett, Frank D. Nelms, Trov G. Tate, W. H. Wilkerson, G. Mack Wynn.

American Cyanamid Co.: A. F. Collins, R. L. Hiller, R. A. Izzi, C. W. Johnson, N. L. Prince, W. S. Sloatman, G. B. Sunderland.

Bahnson Co., Booth Z 14: R. M. Anderson, M. A. Frink, H. W. Reid.

Bell Machine Co., Booths D 9-16: Jes Asmussen, E. J. Bell, Jr., William A. Mitchell, Harvey Raidy, Frank Schafer, Claude Tyler.

V. Berthelson Engineering Works, Inc.: V. Berthelsen, Fred Krarup, Ed Paupp, Louis Slack, E. F. Steck.

Borden Co., Chemical Div., Booths Y 15-16: C. P. Hancock, L. J. Jawroski, C. M. McLagan, J. Maxwell, H. B. Sanders, E. J. Sullivan, B. B. Wadsworth.

C.K.L. Machinery Co., Booths 20-21: Frank Challoner, Frank Challoner,

Jr., Harold W. Fenrich, Henry W. Kratsch.

Carter Products Co., Inc., Booth 6: A. G. Carter, T. L. Watson.

Delmhorst Instrument Co., Booth X 14: Joseph A. Barnes, William J. Delmhorst, Mrs. Marie Delmhorst.

Delta Power Tool Division, Rockwell Manufacturing Co.: Ray DuBrucq, G. H. Madeska, T. C. Mortimer, E. W. Ristau, Bill Samuels, R. L. Young.

DeLuxe Saw and Tool Co., Rockwell Manufacturing Co., Booths F 1-3: A. G. Feldman.

Dependable Machine Co., Booth H 8: Alfred J. Backus, Charles G. Monnett, Jr., George A. Risell.

G. M. Diehl Machine Works: F. Brady, Clem D. Coady, F. A. Collinge, John A. Collinge, Al Ewan, Rust D. Gray, George Gustin, R. Miller, Max D. Pretorius, Elvan Richardson, Howard Temple, Vern Vrooman.

Ekstrom, Carlson & Co., Booths E 8-15: Willard P. Anderson, Kenneth Betts, Emil W. Bodin, S. Peter Ekstrom, Fred J. Heid, Earl D. Jones, Edwin B. Johnson, Ray J. Johnson, Kenneth R. Larson, Theodore C. Mann, Harold E. Nelson, Ray L. Olson, Kenneth Ray, Vern Satterthwaite, Clarence M. Theien, James S. Tompkins.

Enterprise Co., Booth E 7: E. F. Altomare, E. Rohrer, William K. Stamets, Jr.

J. A. Fay & Egan Co., Booths B 5-7: R. Andriessen, E. R. Gabriel, A. A. McLaughlin, V. R. Rechtin.

Fjellman & Winther Engineering Co.: Kaj I. Winther.

Foley Manufacturing Co., Booth H 1: Bruce Bartel, Peter C. Hartmann.

Greenlee Bros. & Co., K. V. White, plus Sales and Engineering representatives.

Howell Electric Motors Co.: H. Hamel, V. A. Miklas, J. J. Orr.

Irvington Machine Works: J. E. Grutter, W. A. Jones.

Kennametal, Inc.: F. L. Brugger, A. G. McKenna, H. H. Palmer, G. L. Peacock, Stanley Repko, R. V. Reynolds, W. D. Turnbull, W. D. Weeks.

George Koch Sons, Inc.: Ray DeBurgh, A. Wetherell.

Leitelt Iron Works: Glenn W. Sackett, Alfred J. Simpson, Thomas A. Steel, Freeman Van Haften.

Lemmon and Snoap, Booth X: Kenneth Lemmon, Rex Lemmon, A. J. Snoap, Leonard Snoap.

McDonough Manufacturing Co., Booth F 4: Amos Froseth, John L. Kildahl, Fred P. Loveland.

Masonite Corp.: William Appledorn, Elmer Graebner, J. R. Hahn, R. J. Toles.

Mattison Machine Works, P. L. Mattison, W. C. Hagstrom, Louis Kroll, Russell Crowe.

Mereen-Johnson Machine Co., Booths E 5-7: C. R. Johnson, G. A. Johnson, R. E. Johnson, C. L. McDermott.

Moak Machine & Tool Co., Booths I 7-8: E. H. Moak, William Schwalbe.

Monical Machinery Co., Booth E 6: Tom Beaton, R. E. Holt, Marion Martin, W. S. Monical, S. L. Warber.

Monsanto Chemical Co.: W. Agurkis, E. A. Anderson, A. L. Bonutto, C. F. Brunson, N. Harris, W. Leichman, T. J. Martin, W. K. Schlegel, W. F. Spinnigan, F. H. Williams.

Moore Dry Kiln Co., Booth X 15: R. H. Knight, Pat Williams, Jr.

National Adhesives, Booth X 16: W. E. Kuhrt, Jesse McClaran, Paul H. McCormack, E. G. Swenson.

National Casein Co., Booths X 6-7: Robert Allen, R. W. Archambeault, Elmer E. Bergey, Thomas H. Cook, Robert Cousins, O. B. Derr, Robert Etien, Russell Gerleman, A. H. Marten, Warren H. Mell, Richard Porter, Richard Shipley, George Tasker, Bart H. Thielges.

Newman Machine Co., Inc.: John M. Gillespie, Wallace D. Johnson, J. R. Martin, George F. Newman, Jr., Paul R. Vestal.

Oliver Machinery Co., Booths C 1-3, 20-21: Arthur Blake, N. J. Conklin, R. DeVries, M. E. DeWitt, W. Goudey, J. G. Hartger, F. W. Kramer, William Lowthian, E. L. McBride, J. E. McLauchlen, William Page, G. C. Ramer, W. A. Samiec, John Walsh, R. T. White, J. R. Young.

Onsrud Machine Works, Inc., Booths E 1-4, 19-21: George Anderson, Albert L. Breuer, Richard Christophersen, Richard Linsner, Richard Nordby, Olai Olsen, R. F. Onsrud.

Perkins Glue Co.: Laurence E. Clark, Jr., John B. Hayward, E. Morris Jones or Jack B. Jones, Virl D. Marshall, James H. Stryker, Julius B. B. Stryker, Jr.

Powers Wire Products Co., Booth 15: Joe Galiske, J. E. Hart, S. K. Harnden.

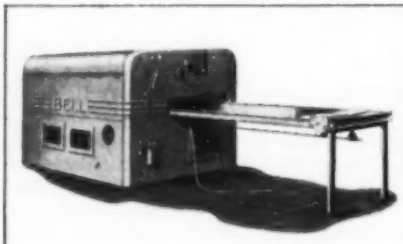
Protection Products Manufacturing Co.: G. G. Garlick, S. O. Hall, H. C.

for the FIRST time

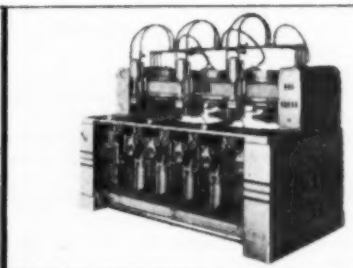
It's a "must" exhibit, if you attend the Big Grand Rapids Show next month. For it will be the first public appearance of the *All New Bell 226 — Eye-Tronic Cut-off Saw.*

It will be your opportunity to see what present electronics can mean to the Woodworking Industry. Make it a "must" and plan to spend some time in the Bell exhibit.

The BELL No. 226 will be added to this family of Woodworking Industry Leaders



NO. 300 ELECTRONIC GLUER — Modern electronics are combined with advanced and improved woodworking design. Automatic feed, pressure, electronic cycling. Even pressure distribution throughout. Solid platens. Self-tuning.



NO. 100 POST BORER — Air power gives exclusive combination of simplicity and Speed. 300 to 350 pieces, each completely bored, is average routine production. Set-up time averages 15 to 20 minutes. Handles both front and back posts.

Kennedy, Lloyd VanBuskirk, R. W. Wadington, L. I. Winebrenner.

Radial Cutter Manufacturing Corp.: Carl P. Gensheimer, Robert Graff, William S. Willette.

Redco Tool Division, Red Lion Cabinet Co., Booth 9: G. W. Brown, J. C. Hampton, Jr., S. S. Sechrist, J. H. Stein.

Reeve Electronics, Inc.: John R. Guenther, Miss G. L. Steichmann, I. R. Wayne.

B. M. Root Co., Booths 4-5: Burnell Diehl, M. C. Diehl, Thomas Dowell, Benj. M. Root, William M. Stair.

Sheboygan Machine Co., Booth E 5: L. A. Nelson, Robert Patterson, A. W. Schneidewind.

Simonds Saw & Steel Co., Booth X 12-13: Ike D. Anderson, Robert A. Berg, Harold Olson, Eugene J. Porter.

Sinker-Davis Co., Booth 14: George C. Martin.

Standard Dry Kiln Co., Booth 2: R. C. Elliott, J. B. Welch.

Tannewitz Works, Booth D 19: Randy Holt, Taisto Lindholm, Casey VandenBroek, Paul Wilder.

Union Tool Corp.: K. J. Heinzelman, K. J. Heinzelman, Jr., Don Kreis, Lewis Luckenbill.

Victory Carbide Saw & Tool Co., Inc., Booth X 23: H. J. Howard, C. Vanderwerken, C. Vanderwerken, Jr.

Williams Patent Crusher & Pulverizer Co., Inc.: Edgar M. Carson, Edward Jueckstock.

Wisconsin Knife Works, Booth H 7: H. E. Cockerill, R. A. Gunderson, R. H. Solem.

Exhibitors other than the above, whose booth numbers and personnel, were not available: Aget-Detroit Co.; Louis Allis Co.; Black Bros. Co., Inc.; Buss Machine Works; Critchlow Wwkg. Machine Co.; Alexander Dodds Co.; Drake Corp.; Econaway Mfg. Co.; Electronic Heating Corp.; Fiberesin Plastics; Mann-Russell Electronics; Nelsonite Chemical Prods.; C. O. Porter Machinery Co.; Rees Blow Pipe Mfg. Co.; Schramm, Inc.; Timesavers Inc.; Walters Mfg. Co.; Wolverine Finishes Corp.

HOW CONTROLS SAVE MONEY

Continued from Page 23

pany for materials, labor or service. The different accounts under our own budget include direct labor, repair, inspection, make-ready, lugging, sweeping, cleaning, clerical and lead men, grinding and sharpening, jigs and patterns, machine breakdown time, overtime premium, foremen administrative, employee absent time, firemen, experimental, learning, maintenance labor, material and equipment, knives and saws, stationery and printing, employees' welfare, water, fuel, electric power, shop supplies, telephone and telegraph, travel, purchasing and receiving, outside professional expenses, tooling and samples, purchase inspection, sundry expenses, labor surcharges and fixed charges.

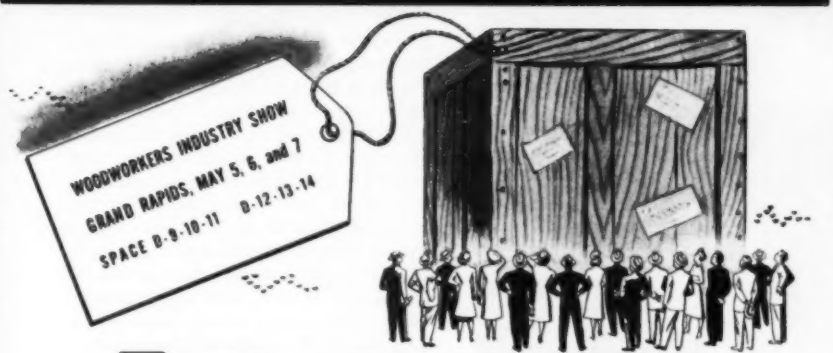
"It is obvious that all of these accounts are not applicable to every department. However, every department has its budget—not only all of the production departments but also all of the indirect departments such as general plant, boiler room, power, maintenance, planning, design, drafting and sample, payroll, standards, purchasing and sales.

"A budget is not an easy thing to set up. It can't be done overnight, nor can it be done in a week. It has to be done in very intricate detail and it must be revised and kept up to date constantly. In fact, before a budget is really sound and operative, probably two or three years will have passed. But even during that time substantial savings can be realized.

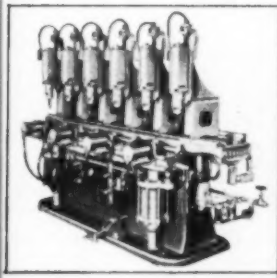
"As to reports, in our organization I receive a daily report from most production departments indicating in each case whether or not direct labor standards are being made. Weekly I get a labor report covering, in dollars, the standard vs. actual direct labor in every department and also the budgeted against actual indirect labor in each department; and, of course, loss or gain are shown.

"Monthly, I get a complete budget report which includes all of the departments and shows the accounts that were mentioned previously. Comparisons from standard to actual, the

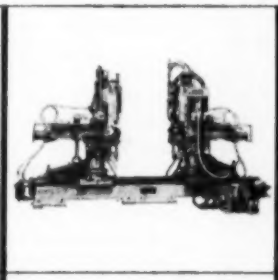
the all New
... BELL EYE-TRONIC CUT-OFF SAW



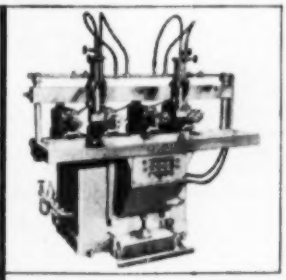
Bell
WOODWORKING MACHINERY
THE BELL MACHINE COMPANY
78 Jackson Drive • Oshkosh, Wis.



No. 80 MULTIPLE HEAD MORTISER . . . Can cut chain mortises, hollow chisel mortises and bore all in one operation. Heads have two-way adjustment for in-line or staggered cuts. Air power table provides cushion feed that insures accuracy, relieves strain, and eliminates overheating of tools.



No. 24 SAWING, BORING AND CHUCKING . . . Saws and bores, or saws and chucks both ends at once. Production of 1500 per hour when fed two pieces at a time . . . or 750 to 1000, one piece at a time. Set-ups average 20 minutes.



No. 205 BORING MACHINE . . . An electric-pneumatic boring machine with motor connected directly to the boring bit. Start with one or two heads and add up to 14 heads as needs grow. Full range of speed adjustment. Bit clusters rotate through 360 degrees.

monthly loss or gain, and also the year-to-date variance are given. This information is also totalled in the grand summary and the mill-through-assembly summary, which is controlled by the superintendent, as well as in our white-stock-through-shipping summary, which is controlled by another superintendent. The material also appears in a third summary, the departments in another division that are controlled by a third superintendent.

"The final report that I receive in regard to costs and their control is a manufacturing statement by the month. This shows the standard cost of material used against the actual cost of the material; the standard cost of labor used against the actual amount paid; and also the standard manufacturing expense against our actual manufacturing expenses. This, of course, is actually the manufacturing profit and loss statement. It is a very handy tool to have.

"By using these controls, we have saved tens of thousands of dollars yearly. If you have up-to-date accounting and control methods you too can realize savings in this same proportion."

SELF designed drill bit sharpener grinds lip-type boring bits

COST SYSTEM METHODS

Continued from Page 35

order are charged directly to it. Direct labor and factory overhead can be charged separately by departments.

The job cost method is particularly suited to most businesses in the wood conversion industry, and to other businesses where costs of one job may be easily distinguished from another. Because of the apparent advantage in the use of job costs, detail procedures are now suggested for their adoption.

The term "key-sort" describes a patented method of punched-card accounting developed by the McBee Co. It is discussed here because of its wide usage in industry.

The key-sort labor card illustrated here will be recognized as the "unit type" of time ticket. It is important to note that only the edges of the card are used for the coding and sorting classifications. The body of the card may be used for any desired record information. The cards are delivered to the user with a row of round holes adjacent to the edge, as illustrated.

The card is identified with a particular classification or code by slotting away the portion of the card between the hole and the edge, leaving a notch. Two types of identification or coding are used on the key-sort card illustrated:

1. Direct coding, used where only a limited number of factors are to be identified, and where it is possible to assign a separate hole in the card to each factor.

2. Numerical or sequence coding, used where many factors are to be identified. The "1-2-4-7 combination," so frequently noted on key-sort cards is a simple mathematical device which provides for coding any number from 0 to 9 inclusive, by using only the four numerals 1, 2, 4 and 7, either individually or in combination.

The punching scheme appearing below shows the operation of the 1-2-4-7 combination as applied to a single digit. This same procedure ap-

There is a product by CARBORUNDUM *for every sanding and finishing operation...*

Waterproof Paper • Cabinet and Finishing Papers • Belt Cloth and Paper • "Nolap" Sleeves • Vonnegut Brush-Backed Sander Heads • Moulding Cloth • Drum Paper • Drum Combination ... PLUS a complete line of Grinding Wheels and Sharpening Stones for your grinding department.

Red-I-Cut® "L" WATERPROOF PAPER

sands hard synthetics... faster!

Sand tough synthetic finishes with RED-I-CUT-"L" Waterproof Paper by CARBORUNDUM. You'll find it cuts fast... resists solvents... lessens loading... gives you up to 25% more "mileage" per sheet than conventional papers. No soaking necessary. Holds size and shape when wet. Try it—you'll do a better job, faster, and at less cost.

YOUR CARBORUNDUM DISTRIBUTOR or salesman will arrange a test of RED-I-CUT-"L" on your finishing line. Ask him about it—or, if you prefer, write The Carborundum Company, Dept. WP 82-48, Niagara Falls, N. Y.

CARBORUNDUM

REGISTERED TRADE MARK

...continually putting more sense in your abrasive dollar

plies to each digit of a numerical code:

0—Punch nothing	5—Punch 4 and 1
1—Punch 1	6—Punch 4 and 2
2—Punch 2	7—Punch 7
3—Punch 2 and 1	8—Punch 7 and 1
4—Punch 4	9—Punch 7 and 2

Note that the only information used for sorting purposes is punched in the card. Since the cards will be added on standard adding or calculating machines, it is not necessary to punch other information. Consequently, the only special equipment required with key-sort cards is that for punching and sorting cards.

Punching is very rapid and may be accomplished either on a key board type machine for punching cards individually or on a grooving or gang-punch machine for punching as many as 200 cards at one time with the same information. Sorting is accomplished with a selecting needle called a "sorting tumbler." Obviously, when the tumbler is inserted through a particular position or hole, all the cards slotted in that position will fall.

The use of codes simplifies the classification of plant operations and avoids resorting on every occasion to full descriptive titles. Once codes have been properly established, anyone can classify and perform detail work with little or no training. Codes reduce the required amount of writing and are much more specific. A code system should be flexible to provide for new accounts which may arise in the future without disturbing the existing structure of the classification.

The following is a suggested list of work centers for identification of mill operations, and identified by a three digit code. The first digit, hundreds, is provided for the name of the department. The second digit, tens, is for identifying types of work centers in each department, and the third or last digit for specific equipment within the center. Examples below show each department, but for brevity only one work center within that department, plus the specific equipment within that center:

300. Rough Mill
  10. Gluing Unit
    1. Cut off
    2. Rip defects
    3. Joint—Match
    4. Glue
400. Finish Mill
  10. Tenoner
    1. Double end
    2. Single end
    3. Double trim saw
500. Product Finishing
  10. Prepare
    1. Shape and sand
    2. Apply base coat
600. Laminating and Veneering
  30. Laminating
    1. Clamps
    2. Trucks
    3. Other
800. Inspect, Pack & Ship
  10. Inspect
  21. Repair—Rep. room
  31. Pack
  41. Ship

A code to identify thickness, grades and species of lumber may be found useful in accumulating data on material requirements, such as:

1000-4900 Lumber Species—

(1100) Poplar; (1200) Gum, Sap; (1300) Gum, Black and Tupelo; (1400) Gum, Red; (1500) Oak, Red; (1600) Oak, White; (1700) Maple, Hard; (1800) Maple, Soft; (1900) Ash, White; (2000) Basswood; (2100) Beech; (2200) Birch; (2300) Buckeye; (2400) Butternut; (2500) Cherry; (2600) Chestnut; (2700) Cottonwood; (2800) Elm; (2900) Fir; (3000) Hackberry; (3100) Hickory; (3200) Magnolia; (3300) Mahogany, African; (3400) Mahogany, Tropical American; (3500) Mahogany, Cuban & San Domingo; (3600) Mahogany, Phil.; (3700) Mulberry; (3800) Pecan; (3900) Spanish Cedar; (4000) Sycamore; (4100) Tabasia; (4200) Walnut; (4300) Willow; (4400) Yellow Pine; (4500) Other Species; (4600) Other Species; (4700) Other Species; (4800) Other Species; (4900) Otherwise Unclassified.

Lumber Thickness—

(10) 10/4" Thick; (20) 12/4" Thick; (30) 3/4" Thick; (40) 4/4" Thick; (50) 5/4" Thick; (60) 6/4" Thick; (70) 7/4" Thick; (80) 8/4" Thick; (90) Thicknesses not covered in above, and squares.

Lumber Grade—

1. Firsts and Seconds; 2. Selects; Saps and Better; 3. No. 1 Common; No. 1 Common and Better; 4. No. 2 Common; No. 2A Common; 5. No. 2B Common; 6. Sound Wormy; 7. No. 3 Common; No. 3A Common; 8. No. 3B Common; 9. Below Grade.

INCREASE PRODUCTION as much as 100%

Lift Installed at	Production Increase
Double Surfacers	40% to 75%
Rip Saws	30% to 60%
Cut-Off Saws	20% to 50%
Matchers and Edgers	20% to 40%
Stacking Kiln Trucks	50% to 100%
Box Car Loading Dock	25% to 50%

INSTALL LEITELT LUMBER LIFTS

A glance at the above figures, FURNISHED BY USERS, proves how Leitelt Lumber Lifts increase production.

You can get these profitable increases in production and save the labor costs of one or two men with a Leitelt Lumber Lift in your plant or yard. Leitelt Lumber Lifts are built in a full range of capacities for handling loads from three to thirty tons easily and safely.

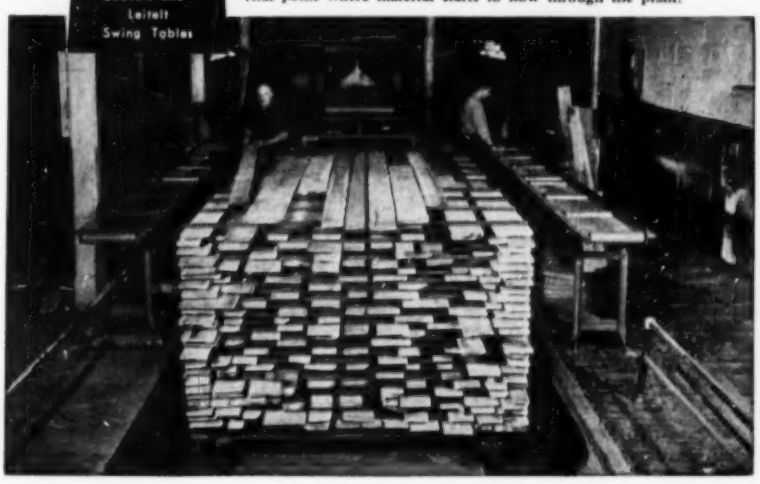
Let Leitelt engineers solve your production problems. Write Today.

LEITELT IRON WORKS

"Pioneer Builders of Lumber Lift Equipment"

335 Mill St., Grand Rapids 2, Michigan

Also Manufacturers of Power Transfer Cars Car Pullers Power Driven Turntables Subcars and Leitelt Swing Tables



A typical modern installation showing a Leitelt Lumber Lift feeding two cut-off saws. This is how one of the largest table manufacturing plants in the country has increased their production at the vital point where material starts to flow through the plant.

FOREIGN WOODS

By George N. Lamb

SABORANA—*Swartzia sp.*
Leguminosae (Pea) Family

Swartzia is a heterogeneous and ill-defined genus represented sparingly in Africa and abundant in northern South America and extending northward to southern Mexico and the West Indian islands. Most species are shrubs or small trees, rarely large trees; most of the trees are deeply fluted or otherwise ill formed.

The heartwood is dark brown to nearly black, sometimes reddish brown in solid color or somewhat variegated. It is sharply demarcated from the thick yellow sapwood. It is without distinctive color or taste. The texture is medium to very fine; grain straight to irregular. It is hard and heavy to exceedingly so. Specific gravity 0.95 to 1.30 at its heaviest; it therefore ranks as one of the heaviest of the world's woods. It is difficult to work but finishes very smoothly. The heartwood is very resistant to decay.

This timber is used locally for implements, heavy construction and turnery. It has no import possibilities for either veneer or lumber. However, small lots occasionally reach this country in experimental shipments. It has a host of names in tropical America but the Brazilian name appears most suitable.

Other names:

Cuba	Pico de gallo
Mexico, Honduras, Panama	Naranjillo
Colombia	Alma negro
British Guiana	Black Paddlewood

Other woods called Saborana:

Dalbergia (Rosewood). Brazil

MUIRAPIRANGA

Brosimum paraense
Moraceae (Mulberry) family

The mulberry family is a large one and contains such other important trees as fig, iroko, fustic, snakewood, satine and osage orange. The genus Brosimum is by far the most important of the genera found in tropical America. Muirapiranga is a rather tall tree of very wide distribution in Brazil, the Guianas, Peru and Panama.

The wood varies according to regions and it is probable that several other closely related species are involved. In general, the heartwood is of rich lustrous shades of red and yellow or may be streaked with yellow and red which is sharply demarcated from the thick yellowish white sapwood. Texture is rather fine to coarse; grain straight to variable; not difficult to work, finishing smoothly and taking a high polish.

The best known and the most beautiful of this group is satine or satine rubane from French Guiana. According to the late Carl Schmieg, the Palo de Sangre of the Peruvian Amazon and Muirapiranga of Brazil are like satine in many ways but not as beautiful.

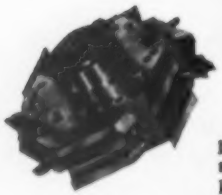
Another rare and beautiful wood in the Bloodwood group is Cacique. It is not obtained from living trees but from old trunks that have been buried on the forest floor until only the core of heartwood remains. To the Indians, this wood would cure pains and wounds and ward off evil spirits. It was also a symbol of authority.

Other names:

England	Bloodwood Brazil redwood Cardinal wood
Panama	Cacique
French Guiana	Satine, Satine rubane
Brazil	Pau rainha
Peru	Palo de Sangre

Other woods called Muirapiranga ..... None

When They're Diehl they cut... True Longer!



Ask any wood product manufacturer who has used Diehl Cutters and Cutterheads for any length of time. He'll tell you that "when they're Diehl, *they cut true longer.*"

Why? Because every Diehl Cutter and Cutterhead is made by picked craftsmen, who consider their work a *profession*—and Diehl tools as *precision instruments.* Such men make *sure* every edge is ground and heat-treated *right*—that static and dynamic balance are *perfect,* before any Diehl Cutter or Cutterhead leaves the factory.

• • •

For the most complete line of standard heads and knives—or designs engineered for your special problems—contact *Diehl.* And write for Condensed Cutterhead Catalog No. 452.

Standard of Comparison in the Woodworking Industry

CUTTER DIVISION

THE G. M. Diehl MACHINE WORKS, INC.

WABASH, INDIANA • U.S.A.

BE SURE to attend WOODWORKERS INDUSTRY SHOW—Grand Rapids—May 5-6-7
SEE DIEHL at BOOTHS 1-3, 22-23, Section D.

Eased Edge 2" x 4"s
THREE AT A TIME

MULTIPLE PRODUCTION of eased edge stock from a single piece of rough lumber is another of the many profit-making operations that you can do to perfection on a Stetson-Ross Planer and Matcher with built-in "cartridge" profile units.

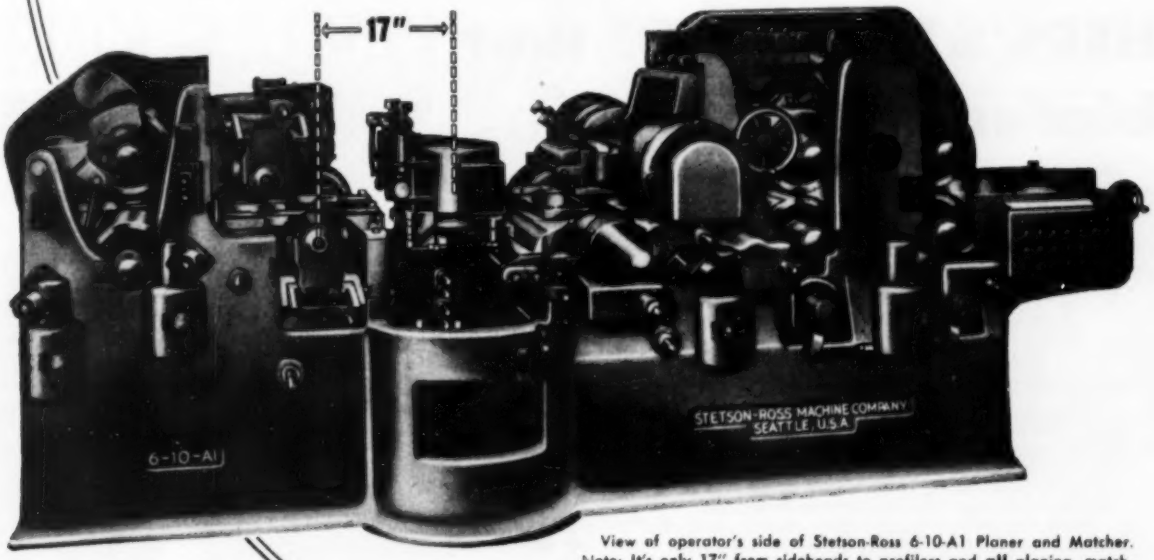
As every planerman knows, lumber in the planing process is very accurately held at the matcher sideheads. Because of this fact, splitting, ripping or profiling can best be done while the stock is still firmly guided by the sidehead shoes—before it has a chance to deviate from its true matching position.

That is why a Stetson-Ross Planer and Matcher, with profilers located ahead of the outfeed rolls and adjoining the sideheads, provides you with the *plus* value of *perfect* eased edge splitting or ripping—and at no extra cost!

Outfeed Rolls Clear the Machine Completely!

The small vertical gear motor on the right above is used to raise and lower the top outfeed roll. This motor is controlled by push buttons located at the feeder's station so that the top roll can be lowered quickly and effortlessly to clear the last board through the profilers, thus preventing damage from burn marks. These built-in hoist motors are also available for rapid setting of top cylinder, top profiler, top infeed rolls, and outside sidehead.

Motorized hoists mean more hours per day of **actual** production.



View of operator's side of Stetson-Ross 6-10-A1 Planer and Matcher. Note: It's only 17" from sideheads to profilers and **all** planing, matching, profiling, ripping or splitting is done within a space of 48". This close coupling means better machine work, easier feeding, fewer breakups.

The outfeed rolls clear the planed lumber through the profilers!

You are invited to write for further information.

STETSON-ROSS
MACHINE COMPANY
SEATTLE 4, WASHINGTON

Export Division, 301 Clay St., San Francisco 11, Calif.

HARDWOOD FURNITURE DIMENSION

•

Solid & Glued
Cut to Size
Run to Detail

•

Superior Quality, Ample Capacity
All Commercial Species

•

BRADLEY LUMBER CO. of Arkansas
WARREN, ARKANSAS

PATENT DIGEST

Pallet

S. W. Woodward (to Woodward Lumber Co., Inc.). U. S. 2,651,486, Sept. 8. A pallet comprising wooden stringers having spaced boards on opposite sides and headed fastenings extending through the boards into the stringers.

Floor

E. Hirsch. U. S. 2,651,820, Sept. 15. Metal backed wooden flooring for installation over a concrete base.

Saw Chain

N. C. Bye (to Henry Disston and Sons, Inc.). U. S. 2,652,076, Sept. 15. Cutting chain comprising cutter links and connector links, the cutter links being of two types; one with the shank on the right and the other with the shank on the left.

Nail Holding Hammer

A. P. Zanelli. U. S. 2,652,082, Sept. 15. Nail holding device for attachment to the head of a hammer.

Impregnated Wood

M. S. Hudson. U. S. 2,652,347, Sept. 15. Vapor removal of excess impregnant from impregnated wood in order to prevent bleeding of impregnant onto the surface.

Woodworking Tool

G. Mannes (to F. Aug. Honneknovel). U. S. 2,652,075, Sept. 15. A hand tool for sawing, cutting, and rasping.

Debarking

R. H. Grant. U. S. 2,652,868, Sept. 22. In a machine for peeling bark, a frame, a transverse smooth roller, and oppositely rotating toothed rollers.

Defect Cutter

P. de Anguera (to Graham Tie Dowel Service Co.). U. S. 2,652,864, Sept. 22. Machine for cutting defective portions from lengths of culled lumber having markers adjacent the defects comprising a table, a longitudinal work guide, a carriage, a set of cut-off devices, a work driver and actuator means.

Template

H. D. Drain (to Walter E. Selck and Co.). U. S. 2,652,866, Sept. 22. Adjustable template for use in cutting an aperture in a panel-like work piece.

Saw

J. T. Ryals. U. S. 2,661,035. Dec. 1. Vertically-adjustable, tractor-mounted tree-felling saw.

Bark Remover

D. Deniscn (to Bates and Chard Co.). U. S. 2,653,635, Sept. 29. Bark removing appuratus comprising a frame with longitudinal grooves, slab conveyor chains, a transverse shaft, cutting discs keyed on the shafts, and actuating means.

Arch Support

M. M. Gottlieb and J. J. Gottlieb. U. S. 2,653,396, Sept. 29. Polyester-fiberglas arch support.

HERE'S THE PROOF that KARBIDE KING blades Slash Blade Cost 50% OR MORE

Here's a typical example of savings in a production glue-line ripping operation on oak and hard maple:

I. Ten ordinary $7 steel blades used per year per spindle $ 70.00
Each resharpened 50 times at $.50 per sharpening 250.00
Total yearly cost of steel blades.....$320.00*

***Not counting cost of time lost in frequent blade changes.**

II. One **Karbide King** blade used on each spindle...$ 91.20
Resharpened once every 30 working days, or 9 times per year — $7.00..... 63.00
Total yearly cost of **Karbide King** blades....$154.20

III. A TOTAL SAVING OF 51.81% OR $165.80

Custom made for your application, **Karbide Kings** run 25 to 100 times longer before resharpening than ordinary blades. Many companies run them continuously on cut off operations six to eight months between resharpenings. Average life between resharpenings on rip saw blades is thirty to ninety days, depending upon the type of material being cut.

Find out how **you** can save money with **Karbide Kings** today. Send for Karbide King's K-53 catalog, and ask for our data form sheet for use in custom engineering a blade to your job.

DE LUXE SAW AND TOOL COMPANY, Dept. 24-D
Subsidiary of Rockwell Manufacturing Co.
514 East Commerce Street, High Point, North Carolina
( ) Please send me Karbide King Catalog K-53.
( ) Please send me specification data form sheet.
Name.....
Address.....
City.....Zone.....State.....

K-5402

Veneer Knife

C. Goodman and C. T. Miller (to C. Goodman). U. S. 2,652,869, Sept. 22. Multi-section veneer knife adapted to be associated with apparatus for clamping the knife and automatically moving the knife toward a revolving veneer log.

Panel

J. R. Burke. U. S. 2,652,600, Sept. 22. Composite panel such as a hollow core door consisting of wooden edge stiles, two thin faces of wood veneer, outer veneer, and wooden core strips.

Plane

L. C. Lumetta and S. S. Lumetta. U. S. 2,651,340, Sept. 8. Carpenter's plane comprising a housing, an arcuate circular blade rotatably mounted in the housing.

Flooring

H. G. Macdonald (to Amco Development Co.). U. S. 2,653,358, Sept. 29. Rectangular parquet flooring block comprising a flexible backing strip and a plurality of juxtaposed wood pieces affixed thereto.

Frame Knee

C. H. Woodworth (to Timber Structures, Inc.). U. S. 2,653,360, Sept. 29. A knee for joining an upright post to a beam disposed at an angle to the top of the post and having an end surface engaging an end surface of the post in miter joint formation.

Circular Cutter

E. G. Anderson. U. S. 2,653,633, Sept. 29. Chuck construction for holding a workpiece of wood, a platen, a center pin, a guideway and a movable carriage.

Laminated Lumber

C. D. Dosker (to Gamble Brothers, Inc.). U. S. 2,653,890, Sept. 29. Bonding two rough-surfaced unplaned boards together by indenting each surface with closely spaced shallow openings and compressing the wood between adjacent openings to form rounded lands, applying an unset adhesive to cause the surface fibers to swell and close the indentations, assembling in laminar relationship, and pressing while the bonding agent sets.

Box

P. L. Blum (to Blum Bros. Box Co.). U. S. 2,654,499, Oct. 6. Box for circular cheeses comprising a permanent bottom and removable lid of wood veneer.

Bowling Pin

J. L. Stearns and C. H. Hoffman (to American Machine and Foundry Co.). U. S. 2,654,606, Oct. 6. Bowling pin comprising a core and laminated compreg covers bonded to the core.

Golf Club

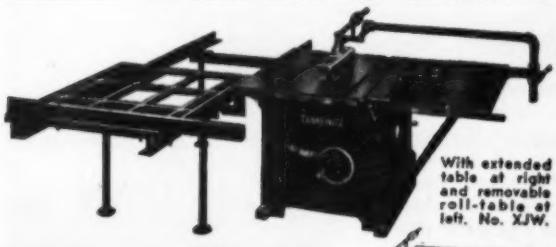
A. S. Liebers. U. S. 2,654,608, Oct. 6. Golf club comprising a body of laminated resin-impregnated wood and a weight entirely enclosed therein.

Packing Crate

J. S. Johnson (to Beiglow-Garvey Lumber Co.). U. S. 2,651,431, Sept. 8. Rectangular shipping container comprising side walls flexibly connected, and top and bottom closure sections.

Chain Saw

F. Neuhauser and R. Prinz. U. S. 2,654,404, Oct. 6. Sawing apparatus comprising a multiple chain timber cutter.

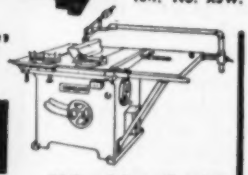


With extended table at right and removable roll-table at left. No. XJW.

Tannewitz "XJ"

FINEST THING IN MITRE SAWS!

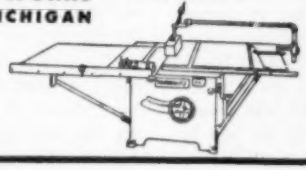
Choice of 5 different tables enables you to obtain a mitre saw that matches EXACTLY your production requirements. Does away with awkward working conditions, steps up production, and saves time and money. Nothing like it. Moderately priced. Write for Bulletin XJ.



Sliding left section top and extended table at right. No. XJSW.

Standard solid table, (No. XJ) or sliding left section. No. XJS.

THE TANNEWITZ WORKS
GRAND RAPIDS, MICHIGAN



Extended table at right—extended sliding table at left. No. XJSW — J-430.

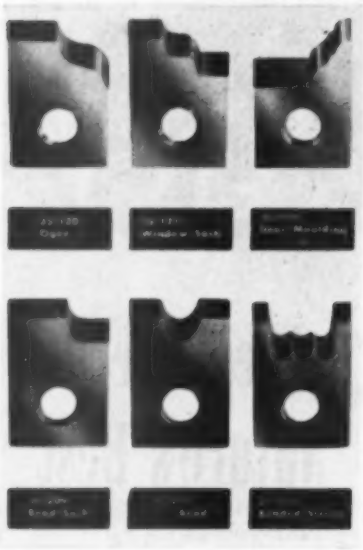
The Tone is Nature's Best

Concerto in harmony, a symphony of coordinated taste in wood... color... design. The finest Walnut composition coming to life in this exquisitely toned piano of fine hardwood *assured* selection from Atlantic Lumber.

Note the Atlantic Man, for he is in tune with all *your* needs—playing his part in superior service. Rely on him always.

THE ATLANTIC LUMBER CO.
88 BROAD STREET, BOSTON 4, MASS.
1055 SENECA ST., BUFFALO 10, N. Y.

NEW and IMPROVED PRODUCTS



Cutter Knives

A set of 26 molding cutter knives (six of which are shown here) will enable the user to make thousands of standard and original molding patterns. The knives have been developed by Delta Power Tool Division of Rockwell Mfg. Co., Dept. WP, 400 N. Lexington Ave., Pittsburgh 8, Pa., for use with Delta molding cutterheads on Delta and other makes of circular saws, and can also be used with radial saws and shapers. This brings the total number of Delta molding cutter knives to 53, all precision ground to exact dimensions from high alloy steel.

Horizontal Platen Grinder

A new horizontal platen grinder being made exclusively for the Curtis Machine Corp., Dept. WP, Jamestown, N. Y., by an affiliate company in Germany has both platen and contact roll and is equipped with a serrated rubber contact belt. This belt on the new Curtis Model KGB 310 platen grinder minimizes glazing or loading of the abrasive belt with its high-speed impact action. The innovation permits platen grinding with fine grit coated abrasive belts maintaining fast cutting action with resulting fine finishes. The unit features a 2-speed motor which develops belt speeds of 5,000 s.f.p.m. and 12,000 s.f.p.m.

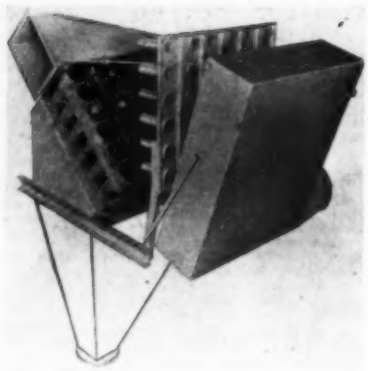
Nailing Machine

The new, improved Milliken Precision Nailer for quickly and precisely driving nails, pins or rivets into wood and other materials is now being manufactured by Press Wireless Laboratories, Dept. WP, 25 Prospect Place, West Newton 65, Mass. Parts to be joined are held on the work table under the nail jaw, and a press of the foot treadle automatically drives pin at exact spot desired.

Machine carries sustained driving action off the flywheel, making it possible to nail hard woods with little danger of splitting or cracking. Handles nails, pins and rivets from 3/16 in. to 1¼ in. Available in five standard models with throat depth ranges from 6 in. to 10½ in.

Pigment Binder for Paint

A new freeze-thaw stable butadiene-styrene latex has been announced by American Polymer Co. (a chemical division of the Borden Co.), Dept. WP, Peabody, Mass. It carries the designation P-556 and was specifically developed as a pigment binder for the paint industry. Its unusual rheological properties and low foaming characteristics suggest its use in paper and related fields as well.



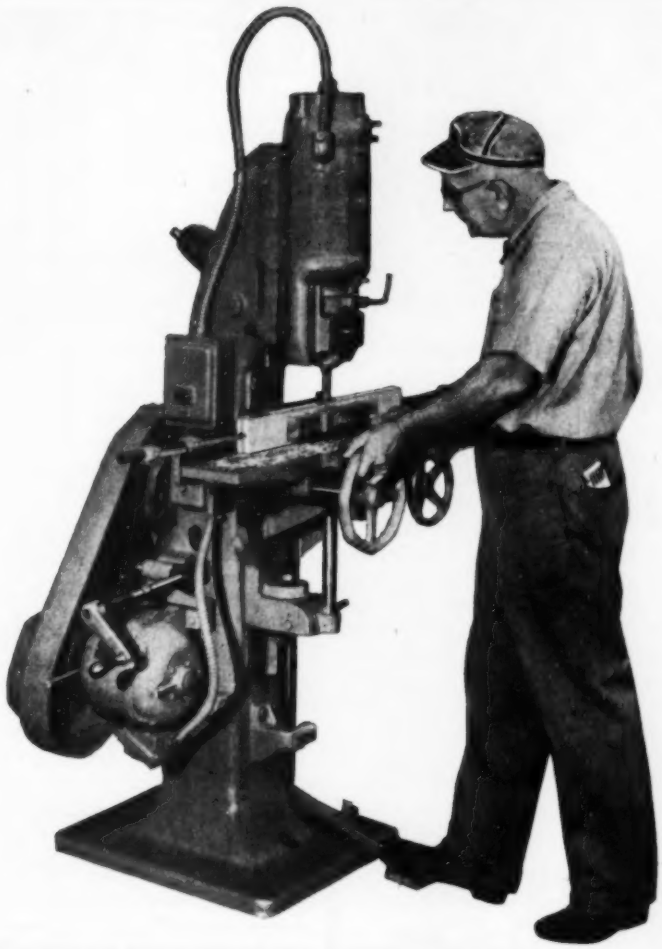
Dust Collector

Ease of inspection and simple cleaning operations are features of all Dustex Microclone dust collectors made by Dustex Corp., Dept. WP, Buffalo 25, N. Y. A hinged outlet hood and cover can be opened in a matter of minutes by removing a few "T" handles. When open, all internal surfaces are exposed and are easily accessible. Dustex collectors are available in 27 standard models to handle any required volume from 70 cfm up. The manufacturer states that these collectors operate on the controlled helical flow principle.

Slitter Knife Grinder

Hanchett Mfg. Co., Dept. WP, Big Rapids, Mich., has developed an entirely new grinder for top and bottom knives. It permits grinding slitter knives to the highest tolerances, both slitter knives and all types of circular for concentricity and micro inch finish.

To insure that these slitter knives are not burned in the grinding, the new Hanchett SK-24 grinder operates on the wet grinding principle, using ample coolant directly applied at point



AN ALL-ROUND mortiser...Greenlee 227 for fast production, extra-clean work!

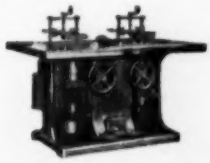
Here's the electric hollow-chisel mortiser that is ideal for all general mortising in furniture, sash, door and similar manufacturing. The GREENLEE 227-BM is of extra sturdy construction with many special features that simplify and speed production. Flexible power stroke feeds the tool to the work with perfect control — can be started and stopped instantly. Variable feed provides a wide range of strokes per minute to fit the exact work requirements. Anti-friction bearings . . . proper tool holders . . . air blast removes chips, cools mortising tools. Regularly rated for chisels up to 1" square, but can handle 1¼" or 1½" chisels for shallower mortising in soft wood. Get complete details now.

Write for Bulletin No. 227 **GREENLEE BROS. & CO.**
1924 Twentieth Avenue, Rockford, Illinois

GREENLEE WOODWORKING MACHINERY AND TOOLS
The GREENLEE line of woodworking machinery includes tenoners, mortisers, borers, saws, planers, and shapers.

GREENLEE DOUBLE-END TENONER . . . often called "a woodworking plant in itself." Renowned for quick, easy setup and wide versatility. Single-end Tenoners also made by GREENLEE.

GREENLEE SIX-ROLL SINGLE PLANER . . exceptionally smooth in operation. One of a line of single and double planers for fine work, high production.



GREENLEE MOTOR-DRIVEN SHAPER . . . all-around unit for high-speed, precision shaping. Double-spindle type, needs no separate frequency changer.

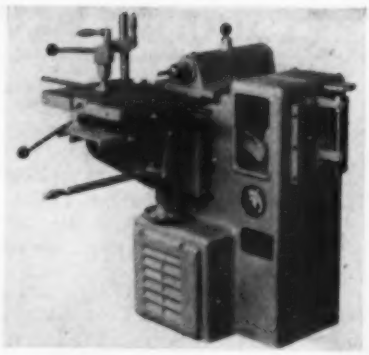
MORTISING AND BORING TOOLS . . . Countersinks, Hollow Chisels, Multi-Spur Bits, Machine Bits and other tools by GREENLEE mean top production from your woodworking machines.

GREENLEE

of wheel contact. The grinding wheel assembly support has a rigid column type of mounting for vertical adjustments to all knife thicknesses. Cross slide movement and screw adjustments are positive and accurate.

Pencil Grinder

A safety guard which fully encloses the chuck nut has been built into the new Nu-Jett Pencil Grinder available from Nu-Jett Products, Dept. WP, 1355 Michigan N. E., Grand Rapids, Mich. The guard makes finger burns impossible and gives more accurate control of the 100,000 rpm grinder. The grinder, ⅜ x 4¼ in. and weighing 5 oz., has a new individual air filter and automatic lubricator. It can etch, grind, polish and deburr.



High-Speed Boring Machine

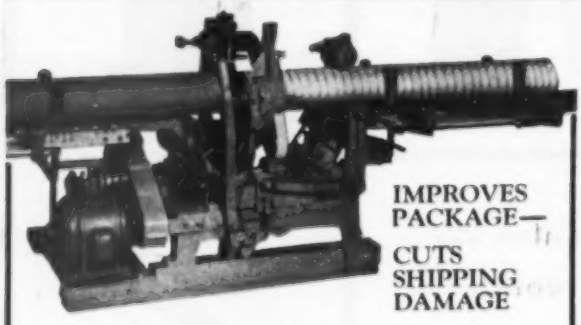
A high-speed, semi-automatic boring machine is manufactured by Helma-Nohoma of Wormerveer, Holland, and distributed by Leonard Rodier Co., Dept. WP, 336 W. 71st St., New York 23, N. Y. Since the drilling of an oblong hole requires no more time than the drilling of an ordinary round hole, the unit is often used in conjunction with a tenoning machine. The table is provided with a quick clamping device and is adjustable up to an angle of 20°. Transmission from a 3 h.p. electric motor is by means of an endless belt. At special request, this machine can be supplied with double action as shown in the photo.

Low-Cost Fire Alarm

Development of a low-cost, fully automatic and shriek-packed fire alarm has been announced by the Fyr-Larm Co., Inc., Dept. WP, Summit, N. J. Freon gas generates a 95-decibel (10 more than required by Underwriters Laboratories) scream for a minimum of five minutes after it is activated by a fire in its locality. Operation is automatic when surrounding air temperature reaches approximately 140° F. No electric power, batteries or clockwork mechanism are required.

Screen for Sanding

Sand Screen, non-clogging open-mesh abrasive material, designed especially for sanding operations where loading or glazing is a problem, is now in full production by The Carborundum Co., Dept. WP, Niagara Falls, N. Y. Commercially available in a wide variety of shapes and sizes, the new sanding screen-like abrasive is



IMPROVES PACKAGE—

CUTS SHIPPING DAMAGE

Use the PIERCE Model D-S Wrapping Machine and Save Time-Labor-Material

The Pierce Model D-S spiral wrapping machine is a production machine that wraps packaged lumber, including flooring, trim, slats, dimension stock and molding, in seconds. Each layer of paper is automatically glued to the preceding layer. The tight binding prevents any internal movement of individual pieces during shipment—and the customer gets clean, protected stock. Model D-S available on sale or lease terms.

Write for specifications • Samples wrapped, no charge

PIERCE WRAPPING MACHINE COMPANY

Builders of production wrapping machinery since 1910

1100 E. 31st Street La Grange Park, Ill.

JUST ADDED:

4 MORE DRY KILNS. Our Capacity now 1¼ Million Bd. Ft. per Charge.

WE ARE ALL SET . . . To Give Your Orders Careful Attention and Prompt Shipment . . . **WE NEVER STOP MANUFACTURING** Ponderosa and Sugar Pine from our own large resources . . . top quality kiln-dried interior trim, jambs, frames, incense cedar venetian blind slats, glued-up panels, cut stock, box shook . . .

WHAT YOU WANT, WHEN YOU WANT IT. RALPH L. SMITH IS YOUR DEPENDABLE SOURCE OF SUPPLY.

Mixed Cars to the Trade, Our Specialty

The Ralph L. SMITH Lumber Company

Mills at Anderson and Castella

Sales Office at Anderson, California

WPA Western Pine Association

SUGAR PINE....PONDEROSA PINE....DOUGLAS FIR WHITE FIR....INCENSE CEDAR

New Chevrolet Trucks

deliver hour-saving power that saves you money, too!

New Chevrolet trucks bring you great new engine power in every model—from light-duty pickups to heavy-duty tractors. And this new power means important savings of both time and money on the job!

YOU SAVE TIME WITH GREATER SAFETY

That's because new Chevrolet trucks permit you to maintain faster schedules *without* driving at higher maximum road speeds. Thanks to greatly increased acceleration and hill-climbing ability, you can save time where it counts. Instead of trying to make up for lost time, you actually cut down the time lost at traffic lights and on steep grades.

YOU SAVE PLENTY ON OPERATING COSTS

New Chevrolet trucks bring you high-compression power that saves you money every mile. All three great engines—the "Thriftmaster 235," the "Loadmaster 235" and the "Jobmaster 261"* deliver greater horsepower *plus* increased operating economy. In addition, the mighty "Jobmaster 261" engine reduces the need for operating in low gears on heavy-duty jobs. As a result, you shift gears less . . . save more on gas.

Now's a good time to see your Chevrolet dealer about a time-saving, money-saving truck. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

CHEVROLET

MOST TRUSTWORTHY TRUCKS ON ANY JOB!

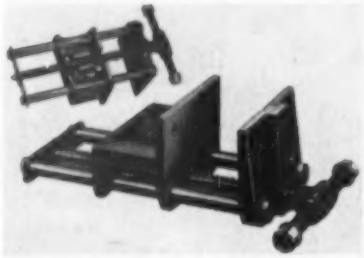
CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

THREE GREAT ENGINES—The new "Jobmaster 261" engine* for extra heavy hauling. The "Thriftmaster 235" or "Loadmaster 235" for light-, medium- and heavy-duty hauling. **NEW TRUCK HYDRA-MATIC TRANSMISSION***—offered on ½-, ¾- and 1-ton models. Heavy-Duty **SYNCHRO-MESH TRANSMISSION**—for fast, smooth shifting. **DIAPHRAGM SPRING CLUTCH**—improved-action engagement. **HYPOID REAR AXLE**—for longer life on all models. **TORQUE-ACTION BRAKES**—on all wheels on light- and medium-duty models. **TWIN-ACTION REAR WHEEL BRAKES**—on heavy-duty models. **DUAL-SHOE PARKING BRAKE**—greater holding ability on heavy-duty models. **NEW RIDE CONTROL SEAT***—eliminates backrubbing. **NEW, LARGER UNIT-DESIGNED PICKUP AND PLATFORM STAKE BODIES**—give increased load space. **COMFORTMASTER CAB**—offers greater comfort, convenience and safety. **PANORAMIC WINDSHIELD**—for increased driver vision. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—easier, safer handling. **ADVANCE-DESIGN STYLING**—rugged, handsome appearance.

**Optional at extra cost. Ride Control Seat is available on all cab models, "Jobmaster 261" engine on 2-ton models, truck Hydra-Matic transmission on ½-, ¾- and 1-ton models.*

coated uniformly on both sides, with silicon carbide grain. Its open-mesh construction reduces loading to a minimum, permitting sanding residue to flow freely through the numerous openings, and also enables the material to be used on both sides.

Sand Screen can be used wet or dry, for both machine and hand sanding operations. In addition to full sheets, cut sheets and discs, in grit sizes of 180 and finer, it can also be furnished in standard 50-yard rolls up to 18 in. wide. The new material can be used flat or folded, creased or torn to any desired size for hand sanding.



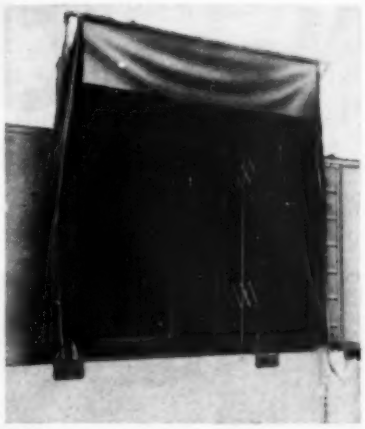
Dual Purpose Vise

The Morgan Vise Co., Dept. WP, 108 W. Jefferson St., Chicago, Ill., announces the development of a dual purpose woodworking vise. Model #18-A incorporates the advantages of the quick action vise with the smooth operation of the continuous screw type. The vise jaw may be pushed up to the work and a simple turn of the handle tightens the jaw against the work.

The vise screw which has a continuous buttress thread is manufactured from extra heavy cold rolled stock. All castings are semi-steel and machined to very close tolerances. The jaws are 7 in. wide, 4 in. deep, and open to 9 in. For extra convenience and utility the #18-A vise has an adjustable stop built into the front jaw. The bottom picture shows the vise as it is shipped, while the upper one is a cutaway view from the bottom side.

Chip Breaker Holder

A new chip breaker holder for use in almost all types of inserted tooth circular mill saws has been announced by Atkins Saw Division, Dept. WP, Borg-Warner Corp., Indianapolis 9, Ind. The holder, made in seven standard patterns—2⅝, 3, 3⅜, 4⅜, B, D, F—breaks up the chips into small pieces, thereby preventing the clogging of gullets and promoting the free clearance of both chips and sawdust.

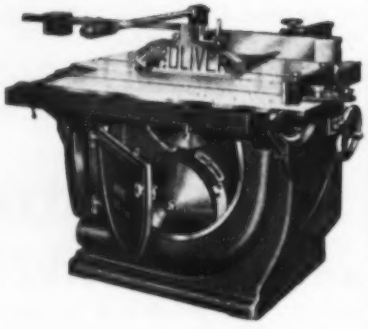


Loading Dock Shelter

A new model shelter that can be used when no loading dock is available has been introduced by Atlas Industries, Inc., Dept. WP, 1300 W. Washington, Chicago, Ill. Mounted on a concrete abutment, it provides complete protection to men and materials when unloading from a box car into a truck or vice versa. The model is a combination of standard scissor and outrigger dock shelters. When not in use, it folds together neatly out of the way of traffic.

One minute this "Oliver" is a fast Rip Saw . . . the next an accurate Cross-Cut!

See our latest machines at the **Woodworkers Industry Show**
Grand Rapids
May 5-8



● This double-duty "Oliver" saves money in the machine room. A shaftless motor is built directly on each of two saw arbors. Either rip or cross-cut saw can be brought into action by turning the handwheel. Table remains horizontal while saw tilts up to 45°. Arbors can be adjusted vertically. Rips up to 24¼" wide, cross cuts up to 36" wide. A 16-inch saw projects 3¾" through table. Dadoes up to 4" wide. Cuts a perfect miter. Most complete and accurate set of gauges. Write for Bulletin 250-D.

OLIVER MACHINERY COMPANY
Founded 1890 GRAND RAPIDS 2, MICH.

To Get Finer Plywood, Specify . . .

Permawood

Our 35 years successful experience, a top-grade management-skilled worker team, and use of the latest-type machinery and methods, has kept the quality of our product far above that of the average plywood. We offer it at competitive prices; and you're getting a finer value when you specify PERMAWOOD Hardwood Plywood.

A Hot-Plate Press in closed position. Skilled workmen exercise every care to insure that PERMAWOOD Hardwood Plywood is properly glued.

PERMAWOOD panels are made in Standard Sizes. Thicknesses in All Veneer construction from 3/20" to 1 1/16", and Lumber Core construction in 3/4" and 13/16". Widths from 30" to 48"; lengths from 36" to 96". Write for latest stock lists and prices.

DARLINGTON VENEER CO., INC.
Established in 1918
DARLINGTON, SOUTH CAROLINA

NEW CATALOGS and LITERATURE

Adhesives Folders

A brochure covering recent advances in "Plastics Laminations" has been issued by National Adhesives, Dept. WP, 270 Madison Ave., New York 16, N. Y. Included in topics discussed are the various laminating processes, storing of glues, amount of spread, and the characteristics of various resins.

Liquid Resin Glues Folder

Publication of a comprehensive folder on liquid resin glue uses has been announced by National Casein, Dept. WP, 601 W. 80th St., Chicago 20. Included are technical sheets about hot press, high frequency, cold press and single opening hot press operations.

New Brochure on Wirebounds

A revised edition of the brochure, "What to Expect from Wirebounds," has been issued by the Wirebound Box Manufacturers Association, 327 S. LaSalle St., Chicago 4, and is available to those concerned with packing and shipping any type of industrial or commercial product. The brochure is illustrated with 30 actual "case history" pictures of wirebound boxes, crates and pallet boxes in use.

Created Metals Publication

The story of created metals in American industry, past, present and future, is graphically told in a colorful and well illustrated publication published by the Carboloy Dept. (WP), General Electric Co., Detroit 32, Mich. Titled "Changing the Shape of the Future With Carboloy-Created Metals," the book tells how man-made metals help span the voids of industrial progress and had, in some instances, already had a tremendous influence on the nation's economy.

TECO Film Available

"Coming Out of the Woods," a sound-color 16 mm film portraying the contributions of timber engineering to the wood-using field, has recently been made available by Timber Engineering Co. for showings to management, sales staff, research, advertising and production personnel. The 22-minute film can be borrowed without charge from the Timber Engineering Co., 1319 18th St., Washington 6, D. C.

Wood Varnish Booklet

Reliance Varnish Co., Inc., Dept. WP, Louisville, Ky., has issued a booklet on its product, Rel-Var. The booklet explains in detail how Rel-Var can be used for air cured or baked processes on wood. Specific uses of the product are covered in the last section of the book.

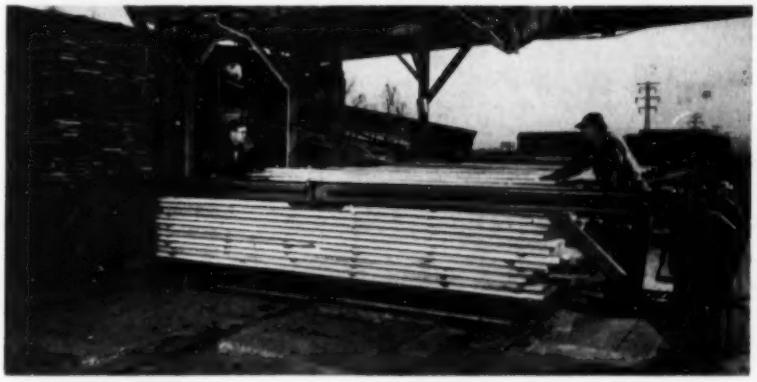
Laminates Brochures

Two brochures have been issued by Parkwood Laminates, Inc., Dept. WP, 24 Water St., Wakefield, Mass. One lists and describes the firm's six laminated plastic surfaces. The finish, grade, specifications, and application are discussed in detail. The second leaflet describes Hi-Den and the uses to which this densified wood can be put.

Hardwood Plywood Booklet

The story of hardwood plywood and its manifold uses is told in a new 20-page booklet, "A Treasury of Hardwood Plywood." The compendium of information on that product is published by the Hardwood Plywood Institute, Dept. WP, 600 S. Michigan

POWER HANDLE lumber
The modern Moore Way —
By COURSES and LOADS



Moore Stacker at Lester Piano Mfg. Co., Lester, Pa., stacking cross-piled loads. Lumber comes direct from box car to conveyor belt to stacker table.

A Moore Stacker for:

Kiln Loads — solid or stickered packages

Random length or width boards — edged or unedged — thick or thin — trimmed or untrimmed

Boards spaced for air-drying or stacked tight edge-to-edge

Moore Stackers are paying their cost in less than 2 years—learn how they can reduce your costs. Write today.

MOORE DRY KILN COMPANY

Oldest and Largest Manufacturers of Dry Kilns and Veneer Dryers

JACKSONVILLE, FLORIDA — BRAMPTON, ONT., CANADA — VANCOUVER, B. C., CANADA — NORTH PORTLAND, OREGON

Blvd., Chicago, Ill. The book contains technical data on the physical properties of hardwood plywood and methods of using it, as well as strength-weight ratios, tables of flexural strength properties and bending properties, and building code data.

Europe Vs. U.S. Wood Industry

How a group of European experts in furniture and wood using industries look at the "Timber and Furniture Industry in the U. S. A." is told in a report published by the Organization for European Economic Cooperation and available from Columbia University Press, 2960 Broadway, New York 27, N. Y. (Price $1.75)

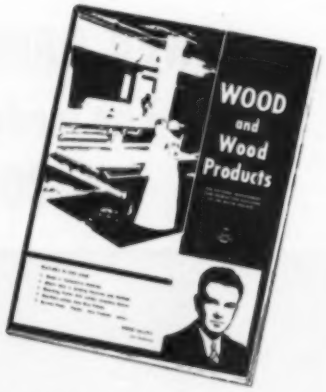
The report covers the Europeans' impressions of the American approach, methods of manufacture, labor, marketing, research and testing, trade associations and training of management personnel.

Versatile Logger Folder

A new 4-page 2-color folder on its versatile pneumatic tired logger has just been released by the P. J. Westfall Co., Dept. WP, 5510 S. E. McLoughlin Blvd., Portland, Ore. The folder describes the "custom-built" features of the Westfall Performer, including its tractive force, 4-wheel locked-momentum feature, the Westfall disc metallic lined brakes and the pendulum weight distribution on grades. Advantages of this 43,000 lb. machine as a dozer, arch, scraper, log-a-teer and winch are highlighted. There's also a breakdown of how one logger saved $36,300 in six months. Standardization for small sawmills

If you're a reader, but not a subscriber— you can't afford to miss a single copy of

Wood & Wood Products



Every issue is packed with ideas that can make money for you

Every month, WOOD & WOOD PRODUCTS gives you practical "know how" information that can help you get more economical production with greater efficiency.

For example: How layout changes can be made to pay off in your plant. Production shortcuts. Labor-saving ideas. Profitable waste utilization. New information on seasoning, finishing, packaging, gluing. Current markets—trends—news. Cost control. How to combat the inroads of "substitutes" on your market. How to meet changes or emergencies that affect your business. Ideas on operation, care and maintenance of machines and equipment.

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*Or less, if you subscribe for 2 or 3 years.

WOOD INDUSTRY IN 2004

Continued from Page 26

x-ray showing all parts of the inside of the log and television showing closeups of the outside, the sawyer is able to begin a precise, completely utilitarian division of the log. He uses a powerful ray and cuts a beautifully fine line down through the log. There is no loss to saw kerf and no sawdust. The boards, as they come off the log are already smooth, edged and planed by the powerful, smooth-bite of the superheated concentration of the cutting ray.

The lumber is perhaps already stained—in the forest by the hypo-packing foresters—to the desired condition. It is already seasoned. Much of the lumber is clear and without knots because of the breeding processes. Desired lengths are easily obtainable because of the original length of the log. Wider widths may be obtained by lamination.

In effect, we might call this the perfect lumber producing process. The mill of 2004 looks like an atomic power plant of 1954 with its clean lines and laboratory-like working areas. Indeed, atomic power supplies the energy to operate the plant.

Incidentally, we note here in the journal that there is still quite a lot of wood produced as lumber even 50 years from 1954. They have never been able to find anything better than lumber for many, many uses. Houses, even in the 21st century, still are being built with wood framing, and it looks as if structural lumber will be around for a long time.

Of course, no one will soon replace old-fashioned, natural-finish interior paneling—a traditional interior for hundreds of years in America. Wonderful advancements in glues increased the values of laminated trusses which are used in a great many places where steel once was considered supreme.

Densified wood—with characteristics of the original board changed by compression—is a popular item in modern building supply markets of 2004. Hardboard, developed far beyond the realm of possibility of the past century,

is used widely in roofing, interiors and exteriors. Flooring is one of its important uses.

The basic requirements of the people of 2000-plus are virtually the same as in the 1950's. They want wood in its many forms for shelter and for places of business, as well as for the many accessories of living, such as furniture, tools and decoration. But the methods used in putting these things together in 2004 differ greatly from those of 50 years previous. Construction is now streamlined.

Units are almost all prefabricated, though the methods are so ingenious there is practically no real style duplication. Based on modular principles of design, they can be expanded and changed with little difficulty and expense. New rooms might be added with merely a readjustment of wall panels. And the prefab units come with built-ins, storage and cabinet space already installed. The prefabrication plant is often just another of the departments in the vast wood utilization factory previously mentioned.

The paint and varnish industry has felt the hand of science in this new era of the wood age, too. We have already seen how woods may be stained desired colors and shades while still within the trees. Now, for painted surfaces, science has developed one-coat paints which will seal, prime and decorate all in one application. Perfect treatments with wood preservatives are possible while the tree is still standing in the forest and the most lasting qualities dreamed of for the more durable species of the 20th century are surpassed by any wood so treated in 2004.

The same is true of the treatment of wood for fire resistance. And that brings us to a very important point. Wood as an incombustible material has such great potentialities in the year 2004, that it is almost unbelievable. Fire underwriters give wood preference in buildings because it surpasses even metal in fire resistance. Where metals become suddenly soft and snap or buckle in extreme heat, the wood stands solid. And wood's ability to remain touchable when exposed to high temperatures, while blisters result when the flesh touches metal, was known even hundreds of years ago.

So we can see, some 50 years beyond 1954, that wood has a more important place in the world than it ever had—and it has always been one of the world's most important materials. Its inherent qualities—plus those instilled by modern science—give wood a superiority never before realized over competing materials in most building and construction uses.

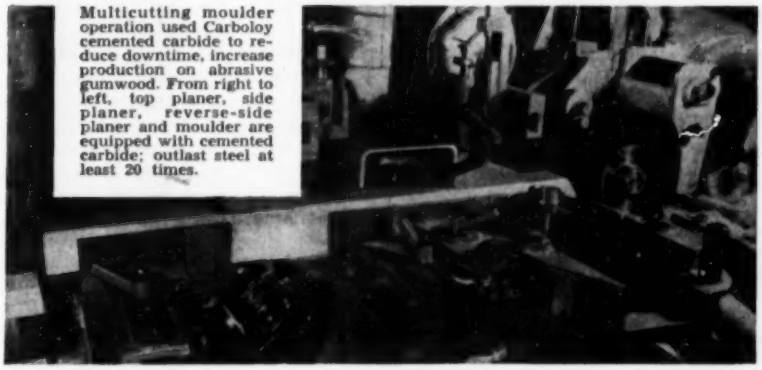
New uses for wood, and new wood products unheard of in 1954, have supplanted much of the wood which in those days appeared on the market as lumber. And yet lumber as such even in the 21st century has its important place in the wood industry.

One thing here stands out among all these facts—wood is the last resort in our drain on natural resources. With the end in sight for some mineral supplies in the continental United States even in 1954, there is not, and never has been, a real end in sight for the forest production of America. Trees, grown on a continuing basis, will last as long as wood is needed, and longer.

So we'll close this look ahead into the wonderland of the forest industries half a century ahead of us with this reminder: What we have just talked about shouldn't be taken with a grain of salt. Progress is a thing of continual acceleration. It builds up momentum always. Medical men tell us, for example, that medical science has progressed further in the past 10 years than it did the previous 100. Surely progress in the forest industry has been the same.

From our vantage point, even without the aid of this Atomic Lumberman . . . the lumber trade journal of the future . . . it is easy to see our industry is on the threshold of a tremendous growth and prosperity.

Moulder heads tipped with Carboloy® cemented carbide outlast steel 20 times



Multicutting moulder operation used Carboloy cemented carbide to reduce downtime, increase production on abrasive gumwood. From right to left, top planer, side planer, reverse-side planer and moulder are equipped with cemented carbide; outlast steel at least 20 times.

In a cabinetworks plant, steel moulder cutter heads, operating on extremely abrasive gumwood, quickly dulled.

Then the cutter heads were tipped with Carboloy cemented carbide, hardest man-made metal. These carbide-equipped cutter heads, operating at 7200 rpm, resisted the gumwood's abrasive mineral lines and sand . . . outlasted steel at least 20 times! Downtime on this multicutting operation was sharply reduced.

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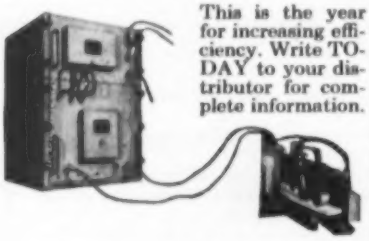

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NAMES and EVENTS

G. S. Lester Elected President Of Hardwood Plywood Institute

G. S. Lester

At the tenth annual meeting of the Hardwood Plywood Institute held in Chicago on March 1 and 2, George S. Lester, president of Eggers Plywood and Veneer Co., Two Rivers, Wis., was elected Institute president, succeeding Fred S. Kuhns, president of Southern Laminating Co., of Memphis, Tenn. The new vice-president is Don E. Nichols, president of Valdosta Plywoods, Inc., Valdosta, Ga.

Other members of the board of directors are: Robert Beggs, Roddis Plywood Corp., Marshfield, Wis.; B. E. Bryan, Calypso Veneer Corp., Calypso, N. C.; C. U. Gramelspacher, Jasper Wood Products Co., Jasper, Ind.; M. C. McIver, Splicedwood Corp., Mellen, Wis.; Lawrence Ottinger, U. S. Plywood Corp., New York, N. Y.; Charles Southgate, International Fiber Board and Plywood Sales, Ltd., Gatineau, P. Q., Canada; J. J. Stern, Southern Plywoods, Inc., Greenville, Fla.; M. H. Speltz, Memphis Plywood Corp., Memphis, Tenn.; and S. R. Venne, Northwestern Veneer and Plywood Corp., Gladstone, Mich.

Henry Bucklin of the Architectural Woodwork Institute of America, who spoke during the trade promotion session, said that an AWIA survey revealed a great potential market during the next five years for wood and wood products in new schools, hospitals, churches, and stores. He called for well-laid promotional plans and cooperation between all segments of the wood industry in order to compete on the best terms with rival products for this market.

Western Wood-Preserving Meet

Election of Paul D. Christerson, Pope and Talbot, Inc., Portland, Ore., as president of the Western Wood-Preserving Operators' association was announced following the organization's annual meeting held recently at the Multnomah Hotel in Portland. He succeeds Henry Garnjobst, Jr., American Lumber and Treating Co., Portland.

The association, composed of all major commercial wood-preserving companies with pressure treating plants located west of the Rocky Mountains, also elected: Mel R. Knudson, J. Neils Lumber Co., Libby, Mont., vice-president; William A. Jackson, Baxco Corp., treasurer; James McGregor, McCormick and Baster Creosoting Co., Portland, secretary; Ralph K. McCulloch, J. H. Baxter Co., San Francisco, Calif., board member; Ben S. Sawyer, Jr., and William R. Bond, both field engineers.

Penn-York Men Elect Strange

At the annual meeting of the Penn-York Lumbermen's Club held in Port Allegany, Pa., recently, Russell Strange of Mainesburg, Pa., was elected president for the ensuing year. Other officers elected were Oscar Dalton, Dubois, Pa.; James Elliott, Coudersport, Pa.; and Robert Potter, Allegany, N.Y.

Horner Heads Ponderosa Group

F. A. Horner

Members of the Ponderosa Pine Woodwork Association, whose headquarters are in Chicago, Ill., have elected as their new president, F. A. Horner, president of Rockwell Sales Associated, Chicago. He succeeds Arthur H. Mohring, vice-president of Edward Hines Lumber Co.

Other new officers are: Paul W. Curtis of J. Neils Lumber Co., Minneapolis, Minn., vice-president; J. D. Rowland, vice-president of Andersen Corp., Bayport, Minn., treasurer; and Loyde S. Blakley of Brooks-Scanlon, Inc., Bend, Ore., secretary.

Mengel Names Distributor

The Mengel Co., manufacturer of hardwood products in Louisville, Ky., announces the appointment of the Eastern Kitchen Co., Philadelphia, Pa., as distributor of its lines of wood kitchen cabinets and wall closet products for the Philadelphia area.

Indiana Lumbermen Meet

Donald S. Mattson of the John I. Shafer Hardwood Co., Logansport, Ind., was elected president of the Indiana Hardwood Lumbermen's Association at the 56th annual meeting held in Indianapolis recently. Other officers installed were: Robert E. Hollowell, Jr., Pierson-Hollowell Co., Indianapolis, first vice-president; John E. Fobes, Barnaby-Fobes Co., Greencastle, Ind., second vice-president; Roy C. Brundage, Department of For-

estry and Conservation, Purdue University, secretary-treasurer.

Newly elected to directorships: T. A. Foley, II, T. A. Foley Lumber Co.; Burton F. Swain, III, National Veneer and Lumber Co.; William Miller, Curry-Miller Veneers, Inc.; David O. Holmes, Jr., Holmes & Co., Inc.; Wayne Bennett, Graham Mfg. Co.

Directors re-elected include: C. H. Barnaby, Jr., D. H. Barnaby Lumber Co.; J. Carl Daugherty, Hoosier Veneer and Lumber Co.; Philip O. Foley, T. A. Foley Lumber Co.; William F. Franket, Wood-Mosaic Lumber Co.; Harold S. Patterson, Amos-Thompson Corp.; Carey B. Paul, Capital Hardwood Lumber Co.; H. C. Spear, Spear Lumber Co.; Claude Wertz, Maley & Wertz Lumber Co., Inc.; Francis Seibert, Jos. L. Eckstein & Sons; Charles Steele, Steele Lumber Co.; Robert Townsend, C. B. Townsend Lumber Co.; John K. Burns, A. J. Sanders & Sons; J. Bruce Urbahns, Reynolds Mfg. Co.; Richard Stem, Chester B. Stem, Inc.; W. P. Eiseman, Peru Sawmill Co.; Everett King, King Lumber Co.

FPRS Meeting April 29-30

Williamsport, Pa., will be host to the Northeast Section, Forest Products Research Society at the Lycoming Hotel April 29-30. Cooperating and sponsoring groups will include Penn-York Lumbermen's Club, Keystone Kiln Drying Association, Pennsylvania State University Forestry Department, Williamsport Technical Institute, West Branch Manufacturers Association, and the Williamsport Community Trade Association. The general theme will be "Efficiency in the Wood Industries." Table top exhibits will be on display and there will be tours to local woodworking plants.

National Woodwork Committee

Appointment of a special committee to study the possible effects of low-cost imports of plywood doors on American industry was authorized by the National Woodwork Manufacturers Association at its 27th annual meeting in Chicago recently. The committee will be appointed by the newly-elected association president, L. L. Gibson of the Long-Bell Lumber Co., Kansas City. Mr. Gibson succeeds L. C. Paisley of Farley & Loetscher Mfg. Co., Dubuque, Ia.

Elected to the post of vice-president was J. G. Boden of the Malta Mfg. Co., Malta, O.; the treasurer now is A. R. Tipton of Roach and Musser Co., Muscatine, Ia.

Assoc. Plywood Adds Space

Expansion of plant facilities at the Eugene, Ore., plant of Associated Plywood Mills, Inc., to permit additional working space for the manufacture of plywood specialties, has been an-

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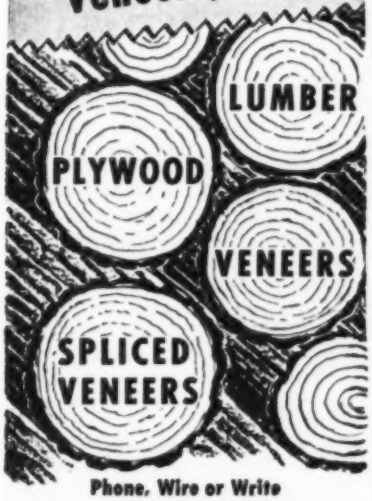

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nounced. A 30 x 400 ft. addition to the main plant is under construction. Special sawing and packaging machinery is scheduled for early delivery in order for the project to be completed by mid-spring.

Connor Lumber Moves Office

The flooring and lumber sales office of the Connor Lumber & Land Co. has been moved from Marshfield, Wis., to 231 Thomas St., Wausau, Wis. This change brings the sales office much closer to the company's manufacturing facilities. In addition to the Underwood Veneer plant at Wausau, Connor has mills at Laona, Wis., and Connorville, Mich.

Personnel Changes

FRANK M. MANSFIELD, III, formerly Detroit District engineer for Torrington Co., has joined Carboloy Department of General Electric Co., Detroit, as manager of product programming.

R. C. Reinhartsen

RAY C. REINHARTSEN has been appointed executive vice president and general manager of Onsrud Machine Works, Inc., located in Chicago, Ill. During his twenty years with the company, his duties have entailed sales and sales management; now he will be responsible for plant production and production engineering. R. F. Onsrud, president of the corporation, also announced that George M. Campbell has been appointed vice-president and secretary, and Albert L. Breuer will be sales manager.

GEORGE R. WHITE, formerly with the Joslyn Manufacturing and Supply Co., Franklin Park, Ill., has joined the staff of American Forest Products Industries. Mr. White will serve as AFPI's field manager for the Chicago area, with his office located at 59 E. Van Buren St. His territory will include the states of Illinois, Iowa and Nebraska.

HENRY C. BINDER has been appointed personnel manager for Binks Manufacturing Co., Chicago, Ill., maker of paint spray equipment and other products.

JOHN W. STALLINGS has been named plant manager at the Williamsport, Pa., Flush Door Division Plant of Atlas Plywood Corp.

JOHN W. RHODA has been appointed director of sales-production coordination for the Redwood Division of Simpson Logging, Co.

BERNARD L. ORELL, vice-president of Weyerhaeuser Sales Co., has been appointed director of the Forest Products Division, Business and Defense Service Administration of the U. S. Department of Commerce.

E. C. Schacht

ELMER C. SCHACHT was re-elected president of Behr-Manning, Corp., Troy, N. Y., at the annual election of officers by the board of directors. This will be Mr. Schacht's fifth term as president of the abrasives firm. Two new vice-presidents elected were Edwin C. Evans and Leon E. Hoogstoel.

AUGUSTINE R. MARUSI has been named president of the Chemical Division of the Borden Co. He succeeds William F. Leicester who had been president since 1944 and will now continue as chairman of the Division's directing board and as a vice president of the Borden Co. Herbert H. Clarke, Jr., has been transferred from west coast operations of the Chemical Division to New York City.

WALTER KLIE, JR., will serve as zone manager, Great Lakes Industrial Sales, for the Sherwin-Williams Co., Cleveland, O. Mr. Klie, who joined the firm in 1936, will make his headquarters in Grand Rapids, Mich.

NEIL MALARKEY and E. J. KOLAR have been elected directors of M and M Woodworking Co., plywood, door and lumber concern in Portland, Ore.

BENJAMIN S. TROOP has joined the laboratory staff of the Timber Engineering Co., affiliate of National Lumber Manufacturers Association.

A. L. Klemm

ARMIN L. KLEMM has been appointed supervisor of wood preservatives and special chemical sales for the Organic Chemicals Division of Monsanto Chemical Co. He will report to H. C. Koehler, manager of agricultural chemical sales.

DONALD G. CLARK has been elected a director of Firth Sterling Inc., Pittsburgh, Pa. He has been associated with the firm for a great many years

in various capacities, serving as vice-president and director from 1928 to 1945.

EARL B. BIRMINGHAM was elected president of the California Redwood Association on February 3. He is president of the Hammond Lumber Co. of San Francisco.

ALAN S. CHASE has been named president of Tekwood, Inc., wholly owned subsidiary of United States Plywood Corp. Since joining the firm in 1940, he has moved up through the positions of general manager and vice-president. Tekwood offices are in Lakeport, N. H.

James M. Brown, Sr., Dies

J. M. Brown

JAMES M. BROWN, SR. 68, a pioneer lumberman of the Pacific Northwest and chairman of the board of Northwest Timber Co., Gibbs, Ida., died of a stroke February 15 in Spokane.

Representing Western Pine Association, Mr. Brown has long been a member of the board of directors of the National Lumber Mfrs. Association. He was also one of the original trustees of American Forest Products Industries, Inc., and served in that capacity until his death. In World War II, Mr. Brown was one of the initial appointees to the lumber division of the War Production Board. He was honored by WOOD & WOOD PRODUCTS with a Salute in January, 1953.

Born in Chippewa Falls, Wis., Mr. Brown went to Harrison, Ida., in 1907, and soon afterward built and operated the Harrison Shingle Co. In 1915, he moved from Harrison to Spokane, and organized the Long Lake Lumber Co., which he headed until the firm's sale in 1946. At that time, Mr. Brown organized and became chairman of the board of Northwest Timber.

REED P. MORSE, 63, for 21 years the representative for M and M Woodworking Co. in the 14 southern states, died while enroute from Houston, Tex., to St. Louis, Mo., on February 1. Earlier, he had been associated with Huttig Sash & Door Co. and McCleary Lumber Co.

PAUL C. OTTO, 61, consulting engineer of The Enterprise Co., Columbiana, O., died on January 27. Before joining Enterprise in October, 1953, Mr. Otto was chief engineer of the Crescent Machine Division, Rockwell Mfg. Co., Leetonia, O.

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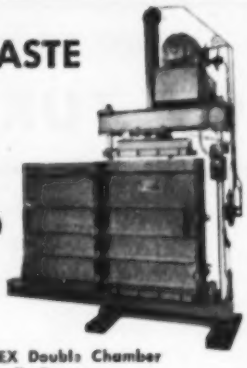

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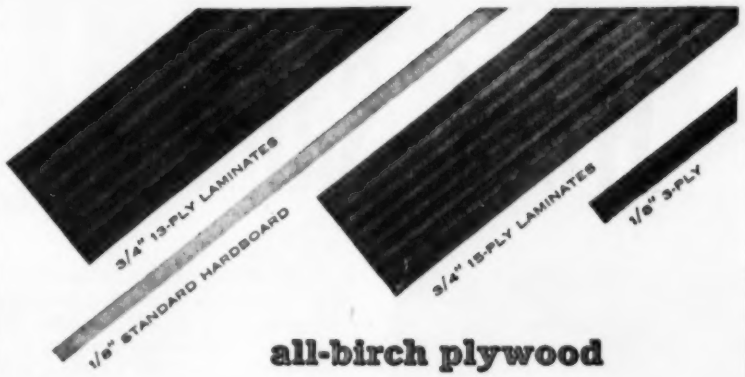

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Wood Salutes

JAMES P. HAMER

NOW SERVING HIS SECOND TERM as president of Appalachian Hardwood Manufacturers, Inc., James P. Hamer is looked upon by many as one of the "young hopefuls" around whom the hardwood industry is building its future. A strong believer in selective cutting and reforestation, he is a leader in the campaign to improve woodland management and protection practices in the Appalachian area.

One of his many forward-looking activities has had the effect of encouraging West Virginia mining operators to carry out wise harvesting practices on their timberlands. In fact, last year Jim served as chairman of the West Virgiana Forest Industries Committee.

Among his many interests currently Jim rates high his obligations and duties, as chairman of the National Hardwood Lumber Association's Inspection Rules Committee.

In addition to his varied industry activities, Jim manages to find time to operate the J. P. Hamer Lumber Co. with mills at Kenova and Madison, W. Va. His association with the hardwood industry dates back to his boyhood, when he gained his first experience in a sawmill operated by his father.

During 17 years with the Kenova Sawmill Co. and other organizations, he rounded out his knowledge of every phase of hardwood lumber manufacturing and selling. He organized his own firm in 1928, first operating a circular sawmill and later adding a modern band mill and dry kilns.

With a son in high school and a daughter in college, Jim's active interest in youth affairs is understandable, as is his participation in local civic and church affairs. Golf and fishing are his main sports. He belongs to the Lumber Trade Golf Association and has a reputation for counting all his strokes.

His scores? "Oh," Jim tells friends, "no golfer ever had more to be modest about."

E. OSWALD LIGHTSEY

WHETHER IT'S FORESTRY, lumber manufacturing, community relations, education or any of his other interests, Oswald Lightsey throws himself into the activity of the moment with the same dedication and enthusiasm. One of the owners of the big Lightsey Bros. plant at Miley, S. C., he is just as much a part of the southern pine industry as are the roots of the towering pines in the forest. He is recognized as a good manufacturer whose forest lands are under sound management assuring continuous operation.

After receiving his B. S. degree from Clemson A & M College in 1933, he joined his father, W. Fred Lightsey, in the lumber business and, like his dad, has consistently maintained an active interest in the affairs of his business associations.

He served on many committees and as a director of the Southern Pine Association, and was its president in 1950 and again in 1951. He is a member of the executive committee of the National Lumber Manufacturers Association—but his activities don't stop there.

Strongly interested in civic affairs, he is a member of the Lions Club and a community leader in Miley, Hampton and surrounding towns. He is vice-president of the Hampton & Branchville Railroad and chairman of the board of trustees of Hampton schools. He is also a trustee of the South Carolina Baptist Hospital and of the Baptist Foundation of his native state.

Oswald answers to the commands of three daughters ranging in age from six to 16, and his favorite sports are hunting and golfing.

Hardwood Flooring Has Big Year

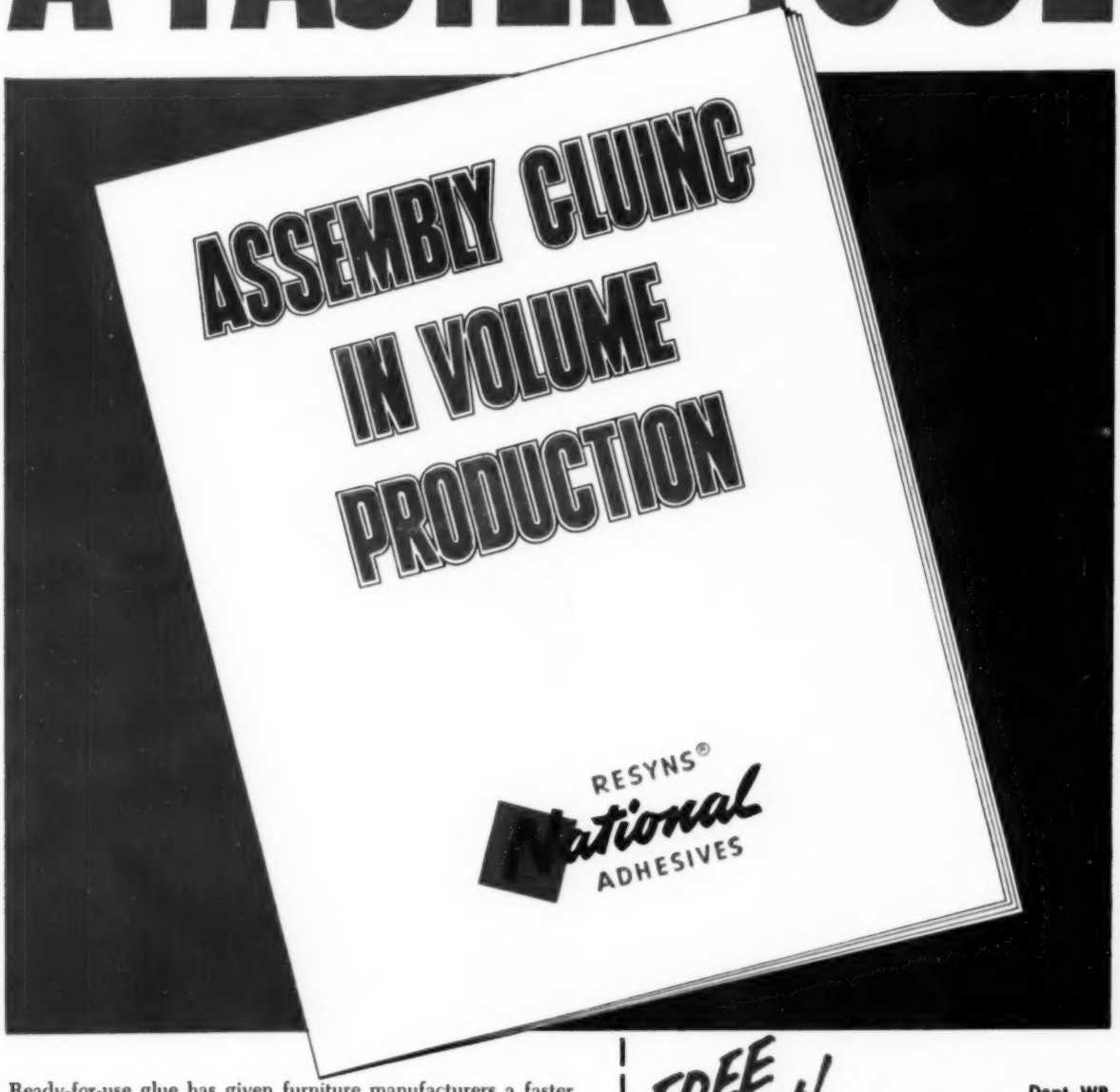
Hardwood floor demands in 1953, as reflected in shipments from the nation's two major producing areas, was the second greatest in history, the National Oak Flooring Manufacturers' Association reported recently. Shipments totaled nearly 962 million bd. ft., approximately 4 million feet more than in 1952. The all-time high was registered in 1950, when almost 1,026 million feet were turned out.

The association also announced the election of the following officers for 1954: Thomas C. Matthews, M. B. Farrin Lumber Co., Cincinnati, O., president; Sam Nickey, Jr., Nickey Brothers, Inc., Memphis, Tenn., vice-president; Henry H. Willins, Memphis, secretary-treasurer.

Matthews and Nickey additionally will serve as directors, along with the following: G. M. Carpenter, Carpenter Oak Flooring Co., Birmingham, Ala.; R. F. Sharp, Memphis Hardwood Flooring Co., Memphis; W. R. Warner, Southern Lumber Co., Warren, Ark.; Milton Craft, Chapman & Dewey Lumber Co., Memphis; Allen Harris, Jr., Harris Mfg. Co., Johnson City, Tenn.; S. B. Fullerton, Bradley Lumber Co., Warren, Ark.; Ben A. Mayhew, Fordyce Lumber Co., Fordyce, Ark.; J. G. Smith, Arkansas Oak Flooring Co., Pine Bluff, Ark.; Walter Wood, E. L. Bruce Co., Memphis; W. W. Miller, Jr., Miller Brothers Co., Johnson City, Tenn.; Lyle Motlow, Williams & Voris Lumber Co., Chattanooga; D. L. Fair, Jr., D. L. Fair Lumber Co., Louisville, Miss.; Willis Farris, Farris Hardwood Lumber Co., Nashville.

If you plan to attend the WOODWORKERS' INDUSTRY SHOW at Grand Rapids May 5-7, the exhibitors' booth personnel list on Page 43 will help you find the man you want to see.

A FASTER TOOL



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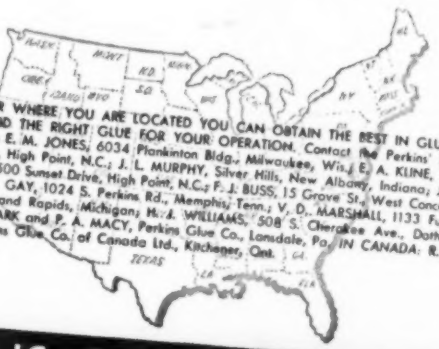
Frank Buss services glue users in New England, New York, New Jersey and part of Penna.



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